

JANUARY 2013

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



Save the Date

Club Meeting 2 January 2013

The program will be about Homebrew. Presented by Pat WA6MHZ

Board Meeting 9 January 2013

Palomar Amateur Radio Club board meeting at 7:30pm at K2RP QTH.

YLDX Meeting 13 January 2013

Annual YLDX meeting in San Juan Capistrano. Are you a YL interested in adventure? Join us!



A partial list of nametags at the December meeting.

KG6WLR, KR6BL, DF6QCM, W6RLC, WA8ZHG, KK6EME, KE6SDF, KJ6ZLU, KG6NNG, KI6GSG, KG6SJP, K6PFP, N1BL, W0KJV, KI6BKR, K6RJF, KI6BTP, AF6SH, WD6DUX, AA6TR, KJ6UWJ, KG6RLA, KE6UYI, KI6JOZ, KF6YUW, KI6YK, KG6YDC, WA6PPG, NA6MB

If you need a nametag, you can order one at most meetings at the membership table.

<h1>HAM RADIO OUTLET</h1> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> Jose XE2SJB Jerry N5MCJ Joe N6SIX </div> <div style="border: 1px solid black; padding: 5px; display: inline-block; vertical-align: middle;"> H R O </div>	KENWOOD <i>rf</i> CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON	Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others <i>too</i> Numerous to Mention!	Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.
Open: 10a.m. – 5:30p.m. Monday thru Saturday 858 560-4900 or toll free 1-800-854-6046 <i>Ask about our great prices</i>	Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!		

The Night Before Christmas -- for Hams

The antennas reached up from the tower, quite high,
To catch the weak signals That bounced from the sky.
The children (Tech-licensed) took HT's to their bed,
And dreamed of the day they'd be Extras instead.
Mom put on her headphones, I plugged in the key,
And we tuned 40 meters for that rare ZK3.
When the meter was pegged by a signal with power.
It smoked a small diode, and, I swear, shook the tower.
Mom yanked off her phones, And with all she could muster
Logged a spot of the signal on the DX Packet Cluster,
While I ran to the window And peered up at the sky,
To see what could generate RF so very high.
It was way in the distance, but the moon made it gleam --
A flying sleigh, with an eight element beam.
And a little old driver who looked slightly mean.
(So I thought for a moment, that it might be Wayne Green.)
But no, it was Santa -- the Santa of Hams.
On a mission this Christmas to clean up the bands.
He circled the tower, then stopped in his track,
And he slid down the coax right into the shack.
While Mom and I hid behind stacks of CQ,
This Santa of hamming knew just what to do.
He cleared off the shack desk of paper and parts,
And filled out all my late QSLs for a good start.
He ran copper braid, took a steel rod and pounded
Right into the earth, 'til the station was grounded.
He tightened loose fittings, resoldered connections,
Cranked down modulation, installed lightning protection.
He neutralized tubes in my linear amp...
(Never worked right before -- now it works like a champ).
A new low-pass filter cleaned up the TV,
He corrected the settings in my TNC.
He repaired the computer that would not compute,
And he backed up the hard drive and got it to boot.
Then, he reached really deep in the bag that he brought,
And he pulled out a big box, "A new rig?" I thought!
"A new Kenwood? An Icom? A Yaesu? For me?!"
(If he thought I'd been bad it might be QRP!)
Yes! The Ultimate Station! How could I deserve this?
Could it be all those hours that I worked Public Service?
He hooked it all up and then very quickly
Worked 100 countries (all down on 160).
I should have been happy: it was my call he sent,
But the cards and the postage will cost two month's rent!
He made final adjustments, and left a card by the key:
"To Gary, from Santa Claus. Seventy-Three."
Then he grabbed his HT, looked me straight in the eye,
Punched a code on the pad, and was gone -- no good bye.
I ran back to the station, and the pile-up was big,
But a card from St. Nick would be worth my new rig.
Oh, too late, for his final came over the air.
It was copied all over. It was heard everywhere.
The Ham's Santa exclaimed what a ham might expect,
"Merry Christmas to all, and to all, good DX."

73's

Joe Nadeau-KB1DGG

Operating Day at Fry's

by Dennis KD6TUJ

On Sunday November 18, 2012, a bunch of Amateurs went to demonstrate Amateur Radio to the public at Fry's in San Marcos. Groups representing CERT, Palomar Amateur Radio Club, QRP, PAPA/D-Star, Skywarn, Red Cross, Fallbrook Amateur Radio Club, 10m tech, and PSK31.

By the time the PARC trailer arrived most of the others were setting up for the day. Set up went well. Conrad KG6JEI pulled the trailer with Greg KI6RRX following and not collecting any losses on the front of his truck. Dennis KD6TUJ arrived as they did. Tom KG6RCW led the set up of the site at Fry's. He set up a double row for visitors to walk down. We had quite a few visitors inquire about different aspect of ham radio. Several asked about how and where to get licensed.

CERT had a cased portable 2m/70cm and a portable repeater on a wide split. This is an approved band plan item that makes the need for cavities almost zero based on power and other frequencies in use. Palomar had an HF station hosted by Tom KG6RCW. The radio display of public use radios got some attention and help steer visitors to understand why amateur radio is so useful. Harry W6YOO brought out his QRP setup working HF CW at 2 watts and getting through. PAPA/D-STAR showed digital radio voice characteristics and internet connectivity. Skywarn had information on their weather spotter program for the public.

On the other side of the aisle was Red Cross with their trailer to support local emergencies. They have the ability to cross-connect several different types of radio. Fallbrook Amateur Radio Club brought their tower trailer using 2m/70cm. Emmett KJ6CLP brought his trailer that he made with a 60 foot tower. He was on the 10m tech segment. Jim NE6O came with psk 3.1 using a Yaesu FT847 and a loop antenna. Jim can help on loops.

The day was great, lots of sunshine with some breezes. We all closed down starting at 4pm, which was good as it was dark by the time we returned to storage. Everyone had a good time showing off Amateur Radio. How can you have a bad day with radio?

Dennis
KD6TUJ



ANTENNA TRUNK LID



DRIVER VIEW



ANTENNA MOUNT INSIDE VIEW



SIDE VIEW OF
THE BRACKET

Mobile Installation

by John WB6IQS

I bought a new vehicle to replace my 210K+ miles 1993 Crown Victoria. I moved the original Alinco DR-570 dual bander to the newer 48K miles 2002 Mercury Grand Marquis. This is a very similar car to the Crown Victoria but the internal construction is much heavier, with extra sound proofing and thicker padded seats. The main problem with this installation was that the seats needed to go farther forward and that the cup holder was much lower than on the Crown Victoria. Thus preventing a standard and more hidden “under dash” installation.

I ended up making an extra long support bracket out of two mobile mounts that I got at the Chino Hills High School electronic flea market (every 3d Saturday of the month). The radio is supported on a center hump mount that goes into the sheet steel through the heavy rug / sound insulation. This car’s drive train design is based on a standard rear wheel drive using a drive shaft and automatic transmission. Because of the radio’s high tilt angle the display is very easy to see, however it is much harder to hide this radio when I am forced to park the car in unprotected locations.

The antenna installation on the trunk lid used a 3/4” thru-hole NMO mount. However, because of the Mercury’s double thick sheet steel construction I had to drill two holes. One over-sized 1.5” hole for working access and one 3/4” for the NMO weatherproof compression mount. The antenna is a Larson dual bander (2 meters/ 450 MHz).

John Kuivinen, WB6IQS. Vista, CA.



SIDE VIEW PASSENGER SEAT



Here's a few photos from recent Lunch Bunch meetings at Phil's BBQ and Fuddrucker's Hamburgers. Topics ranged from octopus raiding parties to DXpedition tactics recently learned in Samoa and how to scatter stinging jellyfish when you are done with your dive.

The lunch bunch welcomes all for a friendly Friday lunch. Locations vary. An email is sent out on Wednesday with details for the Friday lunch.

Sign up at <http://www.w0ni.com>

Tower Maintenance

Charlie NN3V and Tom KG6RCW came to TOWizard storage to meet Dennis KD6TUJ to discuss tower maintenance. Of concern was the cable used to lift and lower the towers and attaching hardware to the bade plates. It was determined that we have 2 60 foot, 1 50 foot, and 2 40 foot towers and would like to replace the cable on all. Charlie has checked availability and pricing. The board has approved an allotment for supplies and hardware. Joe NU6L has crimpers for the cable stops and will let us (or himself) use them. Check with Charlie for the next tower maintenance day. We will extend all the towers prior to needing them to make sure they will extend and retract with the minimun need of help. We want to have them ready well before Field Day.

Dennis
KD6TUJ









PARC Holiday Party was held 6 December 2012. A great time was had by all. Highlights include the Antenna Farm cake, complete with operational tower, and a Malpelo Island DXpedition video hosted by Harry W6YOO. For more information about this duanting DXpedition, check out <http://hk0na.com>

Photos by Don WD6FWE and Michelle W5NYV.







10 Meter Contest

In recognition of achieving a winning score by working fellow amateurs on 28 MHz during the contest period.

Presented to

N6KI

(+ W6RW, AF6WF, K6KAL, N6ERD, NN6X, N6EEG, K4RB, W2PWS, K6GO, N6OHS)

SCORE: 532,770

FIRST PLACE - MULTIOperator, HIGH POWER

SAN DIEGO SECTION



Kay Craigie
President, ARRL

N3KN 2011

[Signature]
Contest Manager

KX9X



ARRL The national association for
AMATEUR RADIO™



San Diego Contest Contest Operators had a lot of fun working the ARRL 10 Meter Contest from a portable site near Bonsall California, Dec 9, 2012.

Watch video here:

http://www.youtube.com/watch?v=_N9WUNRGz9k



ARRL The national association for
AMATEUR RADIO™

ADMINISTRATIVE HEADQUARTERS
225 Main Street, Newington, Connecticut, USA 06111-1494
Telephone: 860-594-0200 ■ FAX: 860-594-0259
www.arrl.org

December 12, 2012

Dear Contest Participant-

It is my pleasure to mail your certificate for the 2011 ARRL 10 Meter Contest; congratulations on your accomplishment!

I must apologize for these certificates being late. With the new design, I had problems with the layout of all the data on the certificate. I hope the new look was worth the delay to you.

The 2011 ARRL 10 Meter Contest will stand as the largest ARRL contest in memory. The combination of exceptional propagation, combined with amateurs worldwide wanting a good 10 meter opening, came together for the 2011 ARRL 10 Meter Contest. Over 5,300 logs were received, the highest amount of participation for any one ARRL contest in the League's history.

Sadly, conditions were not as good this year as 2011. Things picked up on Sunday, with a long path opening to Asia being reported!

2013 should be a great year for contesting; we're still atop a solar maximum (however minimum the maximum may be) and more amateurs are interested in radiosport. Enjoy while you can!

Don't forget that you can find a wealth of information about ARRL contests on our web site, www.arrl.org/contests.

Congratulations again on your certificate!

73,

Sean Kutzko KX9X
ARRL Contest Branch Manager

Public Service

Advocacy

Education

Technology

Membership

Kay C. Craigie, N3KN
President

Rick Roderick, K5UR
First Vice President

Bruce Frahm, K0BJ
Vice President

Jay Bellows, K0QB
Vice President International Affairs

Rick Niswander, K7GM
Treasurer

David Sumner, K1ZZ
Chief Executive Officer
Secretary

Barry J. Shelley, N1VXY
Chief Financial Officer

Mary M. Hobart, K1MMH
Chief Development Officer

Harold Kramer, WJ1B
Chief Operating Officer

Brennan Price, N4QX
Chief Technology Officer

QST
Official Journal

AMERICAN RADIO RELAY LEAGUE

International Secretariat of The International Amateur Radio Union

Membership for December SCOPE

New Members the last month or two.

KG6TUL, WA6L, KJ6NT, KJ6LLU, KJ6ZQB, N6JAI, and N5KKW

And some Reinstatements too!

Way to go!!

**AI
W6GNI**

***IMPULSE* Electronics**

(760) 747-5277 – (866) 747-5277

www.impulseelectronics.com

***Your Connection for
Emergency Power Solutions***

Power Products

Power Pole Connectors – Power Cables – Tools
AGM Batteries – Red/Black Zip Cord 14 – 8 GA

West Mountain Products

RIGrunner – RIGblaster – Accessories
PWRgates – Computerized Battery Analyzer
Coax Cable – Coax Assemblies – Adapters
Terminals – Coax Connectors – Battery
Chargers – Battery Accessories
Email sales@impulseelectronics.com

Fold & Staple that did November Scope

AI Donlevy W6GNI Kathy Donlevy

Jo Ashley KB6NMK Sonny Stires WA5ACE

Dave Ochs KI6LKP Janet Meyer and Roni Elsberry W6UPM

Do you have a mobile installation? Do you want to have a mobile installation, and need some motivation?

We're looking for a few good mobile installations - whether they're completed, on the drawing board, or half-way done and tripping you and your passengers every time you get in and out of the vehicle - to be featured in the Scope. We'd love to show your installation.

Tips, narratives, explanations, techniques, problems encountered and solved (or encountered and evaded) are what we're looking for. Send them in!
scope@palomararc.org

NiCd Lady Company

Grace Lloyd

N6WPA

grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries

• Lead Acids • Replacement Packs

20585 Camino Del Sol • Unit B

Riverside, CA 92508

800/906-6423

951/653-8868

Fax 951/653-5189

Your Complete Battery Source



RF PARTS[™]
COMPANY
From Milliwatts to Kilowatts[™]

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

**Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books**

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS

3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7

4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com



Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale **NEW PRICE**

Hallicrafter SX11 with matching speaker, good condition, works great. \$100 OBO
KK6GO@cox.net or 619-224-8948

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on the 2nd of January 2013, Palomar Amateur Radio Club will present Ham Radio Homebrew by Pat Bunsold, WA6MHZ. Back in the early days of Ham Radio, most of the equipment Hams used was home-brew. There were very few commercial companies making gear that was affordable, so Hams learned to make their own. Often, you can not buy what you need in an application, so the only way to get it is to BUILD it!

This program will show some of the many many projects WA6MHZ has built over the past few decades in a world where making an Electronic Frankenstein is an ART! Come at 7:00pm to socialize.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

FEBRUARY 2013

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



Save the Date

Club Meeting 6 February 2013

The 7:30pm program will be about High Speed MultiMedia (HSMM) Mesh by Andre K6AH.

Board Meeting 13 February 2013

Palomar Amateur Radio Club board meeting at 7:30pm at K2RP QTH.

Field Day Work Parties 9, 13 February

At TowWizard. Contact Greg KI6RXX or Charlie NN3V to volunteer.



A partial list of nametags at the December meeting.

KG6WLR, KR6BL, DF6QCM, W6RLC, WA8ZHG, KK6EME, KE6SDF, KJ6ZLU, KG6NNG, KI6GSG, KG6SJP, K6PFP, N1BL, W0KJV, KI6BKR, K6RJF, KI6BTP, AF6SH, WD6DUX, AA6TR, KJ6UWJ, KG6RLA, KE6UYI, KI6JOZ, KF6YUW, KI6YK, KG6YDC, WA6PPG, NA6MB

If you need a nametag, you can order one at most meetings at the membership table.

<p>HAM RADIO OUTLET</p> <p>Jose XE2SJB Jerry N5MCJ Joe N6SIX</p> <p>H R O</p>	<p>KENWOOD rf CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p>Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others too Numerous to Mention!</p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
<p>Open: 10a.m. – 5:30p.m. Monday thru Saturday 858 560-4900 or toll free 1-800-854-6046</p> <p><i>Ask about our great prices</i></p>	<p>Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!</p>		



Above: a photo from last week's Lunch Bunch meeting at Fuddrucker's Hamburgers.

The lunch bunch welcomes all for a friendly Friday lunch. Locations vary. An email is sent out on Wednesday with details for the Friday lunch.

Sign up at <http://www.w0ni.com>

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale **NEW PRICE**

Hallicrafter SX11 with matching speaker, good condition, works great. \$100 OBO
KK6GO@cox.net or 619-224-8948

Progress Report: PTZ Camera Controller

27 January 2013, Paul Williamson KB5MU

The project to install a commercial-grade surveillance camera on the tower at the repeater site saw some progress this month. Some hardware was modified, some reverse engineering was done, some software development was done, and a big new idea to make the project better was dreamed up.

You can see a photograph of the camera and its manual keypad and joystick controller in the November 2012 issue of the Scope. A more extensive description of the project and photographs of the controller boards are in the November 2011 issue.

Recall that the controller is a stack of three circuit boards. On the bottom is one of the very popular Arduino microcontroller boards based on an Atmel ATmega328. In the middle is an RS-485 board based on a MAX481CSA to provide the electrical properties required by the control input of the camera. On top is a prototyping board on which I hooked up a MT8870D-1 DTMF decoder chip. Audio from the ATV repeater's intercom receiver will be connected to the DTMF decoder. When DTMF tones are detected, that event will be detected by the Arduino software and translated into commands to the camera to be transmitted over the RS-485 interface.

RS-485 Board Modifications

RS-485 is an electrical specification for wired digital communication, just as the more familiar RS-232 is. RS-485 uses a single twisted pair of wires to hook up any number of devices. One device at a time can drive the bus, and the drive voltage is applied differentially: when one wire is driven up, the other wire is driven down. The receiver detects only the difference in voltage between the two wires, which helps to reject common-mode noise on the wire. As long as the wire doesn't fork or loop, and provided it has a matched termination resistor at each end, data transmission should be quite reliable. It's able to handle distances over 1000 feet and speeds over a million bits per second, far more than we need for this project.

I had occasion to use the same RS-485 interface board on another project last summer. When I hooked up two of them back to back for initial development and testing, they worked fine. But when I built up the whole project, which had nine of them on the same RS-485 bus spread over many

meters of wire with proper termination resistors at each end, I found them to be quite unreliable. Uh oh! That kind of configuration should be well within the capabilities of RS-485. On investigation I found the designers of that board had done something a little too clever.

RS-485 doesn't say anything about data formats, but it is often used with the same kind of asynchronous byte-oriented serial formats that we're familiar with on RS-232 serial ports. The ATmega chip on the Arduino board has USART (Universal Synchronous and Asynchronous Receiver and Transmitter) hardware for this kind of format, so that the processor doesn't have to handle every single bit transition in software. The Arduino software development environment comes with built-in driver support for the USART. So, it's perfectly reasonable to expect that the user would want to hook up the RS-485 interface to the USART, and indeed the RS-485 board comes wired up that way. But there's a catch. The USART doesn't know anything about sharing a single pair of wires with multiple devices. It's designed for something like RS-232, where each wire is hooked up to just one driver and the driver is enabled all the time.

The RS-485 interface chip has an extra input pin that is used to enable and disable the driver. It would have been very simple to hook up one of the ATmega's general purpose output pins to that signal. That would provide a way for the processor to share the RS-485 bus. Unfortunately, the built-in serial drivers don't know anything about that, so new drivers would have to be written. What's worse, those drivers would be difficult to get right, since the USART hardware does not provide any way for software to determine exactly when bits are being actively transmitted. Indeed, the whole point of the USART is to hide that kind of low-level timing from the software. So, the designers of this RS-485 board faced a conundrum. How could they make the board easy to use with the USART?

That's where they got too clever. They hooked up the enable pin to the transmit data from the USART, in parallel with the driver's input pin. That means that the driver would actively drive only the 1 bits of each transmission, and leave the bus undriven for all the 0 bits, as well as between transmissions. How could they hope to get away with that?

It turns out this particular RS-485 chip's receiver has a feature that's not required by the RS-485 standard: if the bus isn't driven, it guarantees that the received value will be seen as a 0. It accomplishes this by having weak pull-up and

pull-down resistors on the bus. So the trick of driving only the 1's does work, as long as the board is used only with other devices that make the same guarantee, and as long as there aren't so many other loads on the wire that the weak pullups are too weak to work. My summer project had too many devices on the bus for those weak pullups. Besides, the point of using RS-485 in the first place is to take advantage of the excellent noise immunity of differential signaling. If the bus is only driven for 1 bits, that noise immunity is seriously compromised.

For the summer project, I simply disconnected the enable pin, leaving the transmitter enabled all the time. I could get away with that, because that project had only one master controller that needed to talk to all the other controllers. They didn't need to talk back. As it happens, we have the same thing on this project. The camera doesn't talk back on the RS-485 bus, at least not in any documented way I could learn about.

I realized another thing on that summer project. By hooking the RS-485 bus to the one and only USART on the Arduino, it became impossible to use the USART for downloading new software to the Arduino, and to use the USART for printing out debug information during software development. These functions are built into the Arduino software development environment, and they only work using the USART pins. For the summer project, I manually disconnected the RS-485 bus each time I needed to download code, and I made other arrangements for debugging. It was inconvenient.

So, for this project, I have opted to modify the RS-485 board so that it does not use the USART hardware. Instead, the receive data, transmit data, and transmit enable are connected to three separate general purpose pins on the Arduino. This means that the software has to handle each and every bit transition. Fortunately, there is now driver software to handle that, too, built-in to the Arduino environment. The speed requirements for this project are modest at 2400 baud, so the extra processor load of handing

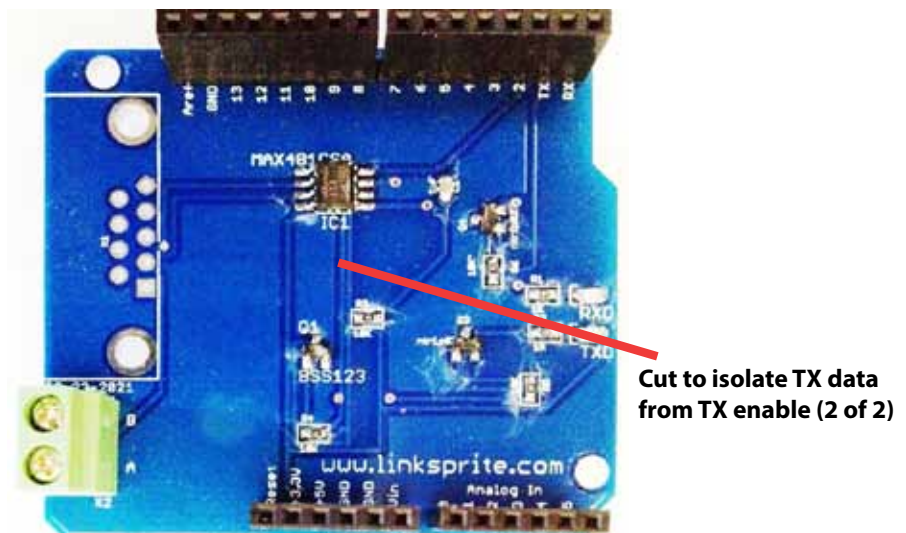
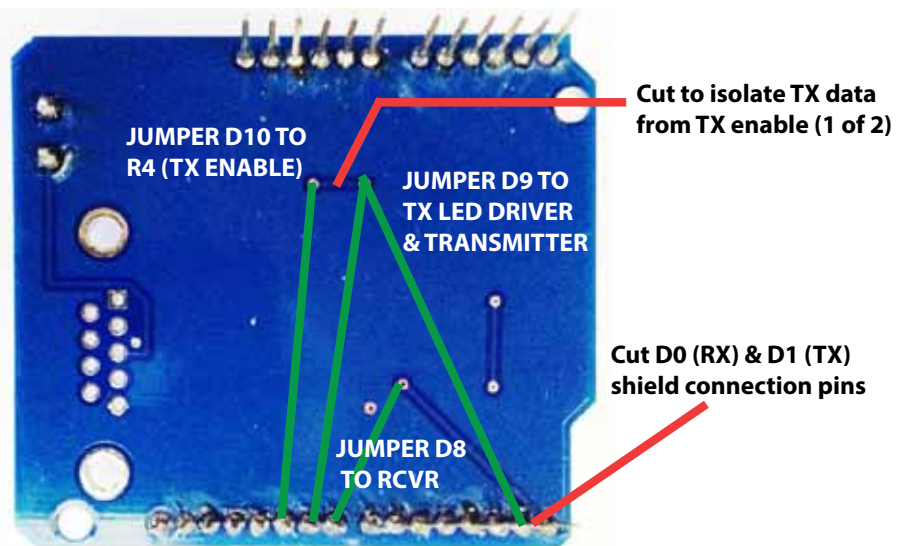
the asynchronous data in software is acceptable. Since the camera doesn't talk back, we don't need to worry about careful timing of the transmit enable pin.

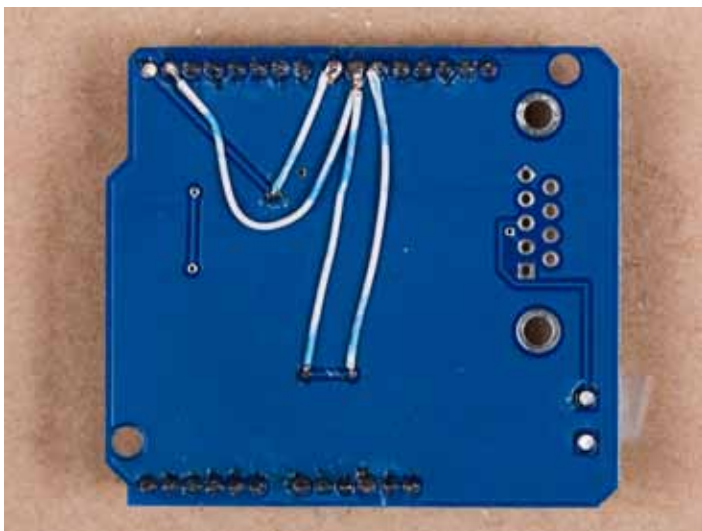
My modifications to the RS-485 board are shown here. To plan out the modifications and document them, I made photographs of the front and back of the board and annotated them using Illustrator. The green lines represent added jumpers, and the red lines point out places where printed circuit board traces were to be cut. The other two photographs (next page) show the modified board.

Reverse Engineering

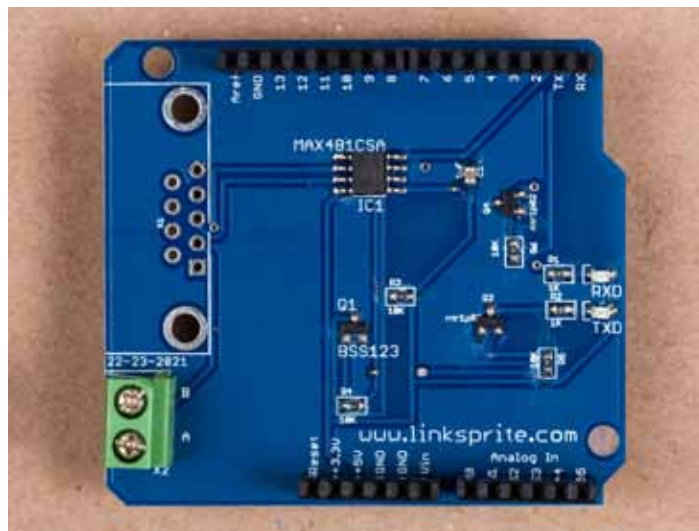
The camera understands a commonly used data format called Pelco D (named after the company that developed it). Some information about this protocol is readily available on the web, but it's

PTZ CONTROLLER RS-485 SHIELD MODS





MODIFIED BACK SIDE



MODIFIED COMPONENT SIDE

rather sketchy. The company that bought the company that bought Pelco does not publish the specification. Supposedly they will supply the protocol document if you write a letter and ask for it, but I wanted to use only public information and not get involved in any non-disclosure obligations. Besides, my experience is that specification documents never tell the whole story anyway.

Fortunately, when John WB6IQS acquired the camera for the club, he also obtained a keypad controller for it. This controller has a small LCD display, a specialized keypad with 30 keys, and a three-axis joystick. It hooks up to the camera's RS-485 control input, and provides access to all the camera's features. With the help of wiring already figured out and provided by John, I was able to put the camera through its paces and learn exactly what features it has.

Very few lines of software (and a couple of wires) were needed to configure my DTMF controller as an eavesdropper on the RS-485 bus. Whenever the keypad controller would send a command to the camera, the DTMF controller would also receive those commands, and print them out on the debug console for my inspection. In this way I was able to determine exactly how to command the camera to do each of its tricks.

The most straightforward way to control the camera with the keypad controller is to use the joystick. Shove the joystick left, and the camera pans to the left. Right, right. Joystick up and down tilts the camera up and down. Twisting the joystick handle zooms the camera in and out. In this way you can manually point the camera at anything level with the camera or below the camera. Using dedicated buttons on the keypad, you can also adjust focus (near or far) and the camera's iris (brighter or darker images). My original notion

was to make these manual functions available via DTMF, and call it good. But that only scratches the surface of what the camera can do. It also has a variety of automated features designed to make it useful in a security system. Some of these features are too good to ignore.

The camera supports presets, tours, patterns, and scans. These can all be invoked from the keypad controller using the Pelco D protocol, and thus can be invoked by the DTMF controller as well. Some of the more advanced settings are not available through the protocol. For these and other advanced features, the camera has its own menu system. The menu can be invoked from the keypad, and is displayed over the video image. Pan and tilt commands sent by the joystick are used to navigate the menus. The camera's menus include settings that could disable the entire system, requiring a repeater site visit to fix, so we probably won't make them available over the air. A preset is a specific pan angle, tilt angle, and zoom setting. The camera supports 120 presets that can be programmed to point the camera at specific points of interest and recalled with just a few keypresses. Presets can be set and recalled via the Pelco D protocol, so it will be easy to support those functions via DTMF. Presets can also be named, and the name can be displayed on the video image, but setting up names can only be done through the camera's menu. I will probably set it up so that some presets are named and not changeable, and the others are user settable.

A tour is a list of presets, with a dwell time for each. When the tour is invoked, the camera visits each preset in turn, waiting for the dwell time before going on to the next. The tour repeats endlessly until interrupted by another operation. The camera supports four different tours, but they can only be programmed via the menu system. Since a tour

would make a very nice general-purpose display on the ATV repeater, we will certainly make an effort to program in some useful tours using the fixed presets.

A pattern is a starting preset plus a series of pans and tilts, all reproduced with the same timing as they were originally entered with. The camera supports four different patterns, and they can be programmed via the protocol. Patterns are probably not as useful as tours, but they can be provided for users to program if they wish.

A scan is a starting preset plus an ending pan angle. The camera pans back and forth between the starting point and the ending point, cylon style, endlessly. The camera supports just one scan. It can be programmed via the protocol, so we can make this available to users, too.

Making all these features available to users will add some complication to the system. The last version of the club's autopatch system was notorious for being so complicated to use that many users simply gave up. I'd like to avoid that fate. I have some ideas.

Software Development Progress

As of today (January 27) I have software working that does all the major functions. It recognizes DTMFs. On receiving an activation code of several DTMF codes in sequence, it goes into a manual control mode that simulates joystick operation on the keypad controller.

Refer to any typical DTMF keypad and to the illustration of DTMF keypad functions. The 4 and 6 keys will pan the camera. 2 and 8 will tilt it. 1 and 7 will adjust zoom, while 3 and 9 will adjust focus. For all these functions, just hold the key down as long as you want to keep changing the view. The 0 key will access a single fixed preset in order to get back to a known, identifiable starting point. Finally, the # key will exit keypad mode. This is all pretty simple so far, right? It's all working now.

I also have DTMF codes that invoke all the fancy features, but they are not easy to remember. I have an idea about that.

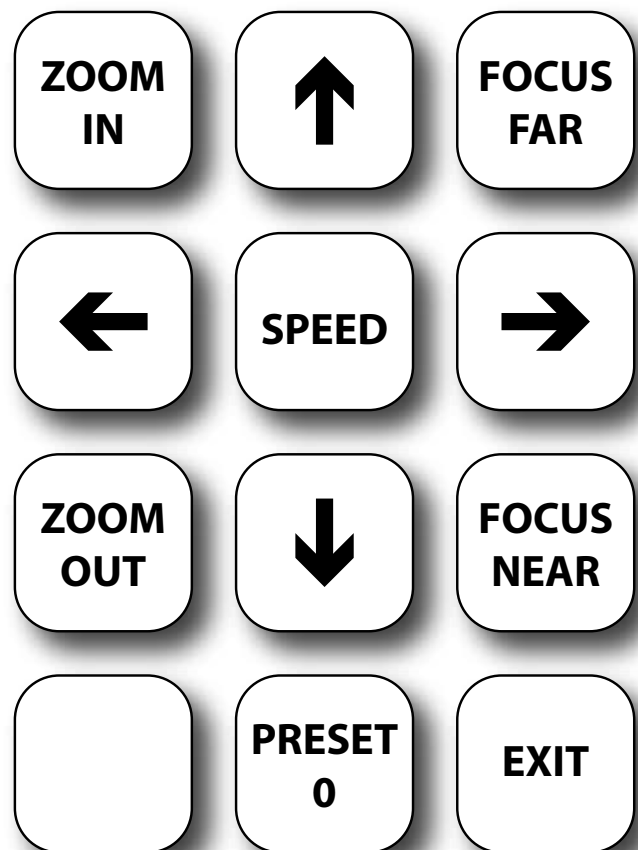
The New Crazy Idea

I spent a while trying to design DTMF codes for all the features that were so logical that they'd be easy to remember. The software I have now implements these codes, and I was able to play with them using an actual DTMF keypad. The live keypad mode is very usable, I think. But those DTMF sequences for fancy features? They're terrible.

I think what's missing is feedback. Even if you can hear the DTMF tone—which I couldn't with my test setup, and you might not with your HT—you still have no idea what state the system is in until it either does what you want, or fails to. Long opaque sequences of DTMF tones aren't nice. What do we have for feedback to the user? Just the video.

The camera itself has hardware that can put text on the screen over the camera video. It's even programmable to some extent, using the camera's menu. But the protocol doesn't provide a way to just put arbitrary text on the screen. That would have been nice.

So, how hard is it to put text on the screen? That



used to be a big deal. That was a long time ago now. Today, it's one chip. I've ordered one on a little board that makes it easy to hook up. \$40. Drivers to make it work from the Arduino are available on the net. Cool.

So if I can put text on the screen, what's the best way to make many features easy to use? I'm thinking menus. There will still be an activation code, just to keep the system from responding to random DTMF tones or false detections. Once the system is up, it can help you through all the operations. At each stage, your options will be clearly spelled out on screen, or one keystroke away if you choose to hide the on-screen text. I think it will work!

Who Can See It?

The ham radio part of this project is that the DTMF codes are going over the 2m intercom link and the video is coming down via Amateur Television on 1241.25 MHz. My hope is that this gadget will encourage a few more people to get equipped for ATV operation on the club's ATV repeater. Myself included.

It would be neat if the ATV repeater's output were also available on the internet. But that's another project.



This issue of the Scope is Sock Monkey approved!
He especially likes the new ICOM IC-7100.
Photo courtesy of Kevin Trotman.

Minutes

Palomar Amateur Radio Club

Board of Directors Meeting

December 12, 2012

The meeting was called to order by President Dennis Baca KD6TUJ at 7:30pm at the home of Ron Pollack K2RP. In attendance were:

President: Dennis Baca, KD6TUJ
Vice President: Ron Pollack, K2RP
Secretary: Jim Cooper, NE6O
Treasurer: Teri Bloom, W6TRB
Director #1: Don Johnson, WD6FWE
Director #2: Rich Lippucci, KI6RRQ
Guest: Conrad Lara, KG6JEI
Guest: Dave Ochs, KI6LKP

Treasurer's Report

Dave Ochs KI6LKP distributed copies of the Treasurer's Report. Motion by WD6FWE to approve the Treasurer's Report as published. Seconded by K2RP. Motion passed unanimously.

Secretary's Report

KB5MU distributed copies of the minutes of the November board meeting. W6TRB stated that her name was misspelled as Terri instead of Teri. Motion by K2RP to approve the report as modified. Seconded by WD6FWE. Motion passed unanimously.

Upcoming General Meetings

KD6TUJ reported that at the January meeting Pat Bunshold WA6MHZ will give a talk on home-brew equipment.

Membership Report

KI6LKP reported that the club has 267 members.

Repeater Technical Report

KG6JEI reported that EARS had trouble with EchoLink not identifying.

KD6TUJ talked with ART KC6UQH about the 6-meter cavities. They are homemade by Bill W6PIG. The Aluminum boxes to BNC connectors have corrosion. The center element needs cleaning and resoldering. There is a possible donation of 47 MHz tunable cavities. Presently, the 6 meter antenna is sitting on the hill.

The 146.73 mystery issues appear to be heat related or intermod.

KD6TUJ wrote a letter to TASMA about interference to the 147.130 repeater by the Contractor Point

repeater on 147.120. This repeater was approved at a different location, then moved to Contractor Point mountaintop.

Appointed Officers

Michelle W5NYV as Scope Editor. Al W6GNI as Membership Chairman. Conrad KG6JEI as Repeater Technical Chairman. Motion by K2RP. Seconded by WD6FWE. Motion passed unanimously.

Field Day Chairman

The Field Day Chairman will be Greg KI6RXX with Charlie NN3V as backup.

Tower Maintenance

NN3V figures the current price to maintain the towers at \$180.00. This would replace all cables in the crank-up towers at a price of \$0.32/foot, cut to length \$0.36/foot. Motion by K2RP to approve up to \$200 for tower maintenance. Seconded by WD6FWE. Motion passed unanimously.

WD6TUJ is on the lookout for 100 foot lengths of RG213, 9913, or equivalent for each Field Day Station. All hardware should be switched to 1/4 inch.

501C3

K2RP is working on it using the EARS application as a guide. He should have several years records to work on. WD6FWE suggested that we use Quicken Edition for Non-Profits. A separate account will be required for the 501C funds.

SANDARC

KD6TUJ reported that there was no progress on SANDARC.

Next Board Meeting Location

It was agreed that the next Board meeting will be held at the home of K2RP at 7:30pm on January 9, 2013.

Adjournment

The meeting was adjourned at 8:50pm

Respectively submitted

Jim Cooper NE6O
Secretary

New Members the last month or two.

**KG6JML, KJ6FZQ, KJ6WNP, KK6AZB, and KJ6STH.
And 8 past members Reinstated!**

While we certainly appreciate Reinstated members, we believe many "Reinstatements" are due to members not aware that their membership was due.

Since many members now get the News Letter (SCOPE) on the web, they don't receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member's calls that are getting close to renewal time. Previously, we listed the memberships that had expired, and some didn't like that at all!

The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership.

KJ6TOT, KJ6TOO, KJ6TOP, N6KI, K6EQ, KI6LAV, WA6RDB, ZZ9WGF, KE6CWP, KE6CWM, K2RP, KK6GO, KF6YWE - more next month!

IMPULSE Electronics

(760) 747-5277 – (866) 747-5277

www.impulseelectronics.com

***Your Connection for
Emergency Power Solutions***

Power Products

Power Pole Connectors – Power Cables – Tools
AGM Batteries – Red/Black Zip Cord 14 – 8 GA

West Mountain Products

RIGrunner – RIGblaster – Accessories
PWRgates – Computerized Battery Analyzer
Coax Cable – Coax Assemblies – Adapters
Terminals – Coax Connectors – Battery
Chargers – Battery Accessories
Email sales@impulseelectronics.com

Do you have a mobile installation? Do you want to have a mobile installation, and need some motivation?

We're looking for a few good mobile installations - whether they're completed, on the drawing board, or half-way done and tripping you and your passengers every time you get in and out of the vehicle - to be featured in the Scope. We'd love to show your installation.

Tips, narratives, explanations, techniques, problems encountered and solved (or encountered and evaded) are what we're looking for. Send them in!
scope@palomararc.org

NiCd Lady Company

Grace Lloyd

N6WPA

grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries

• Lead Acids • Replacement Packs

20585 Camino Del Sol • Unit B

Riverside, CA 92508

800/906-6423

951/653-8868

Fax 951/653-5189

Your Complete Battery Source



RF PARTS[™]
COMPANY
From Milliwatts to Kilowatts[™]

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

**Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books**

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS

3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7

4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com



Five Band Worked All States for the Small Station

With persistence and some creative thinking, 100 W and a wire can put 5BWAS on the wall.

Ron Pollack, K2RP

As we get older, most of us realize that we won't be sports stars, captains of industry or President of the United States. That doesn't mean we lose the ambition to achieve milestones. In our Amateur Radio lives, most of us with average equipment, limited antenna possibilities and insufficient available time won't find ourselves on the DXCC Honor Roll or with a top ten score in a major contest.

As I was wondering what kind of meaningful goal I might achieve, I went to a meeting of my radio club and one of the members Harry Hughes, W6YOO, had brought in his album of 250 QSLs representing the requirements for the 5 Band Worked All States Award (5BWAS). The number of his award was in the high 2000s, which aroused my curiosity. After a little research I discovered that the award began on January 1, 1970. This was a "start from scratch" award, in that all contacts had to be made on or after that date. I was surprised that so few, relatively, had been issued in all that time.

As I considered 5BWAS, I realized I was working with some "handicaps:"

- Only 100 W from a venerable FT-767GX transceiver.
- Small suburban lot, with a 50 foot pole for a wire antenna.
- Still working full time.
- Station in a "corner" of the country.
- A cross country move eliminated 30 years of contacts.

Still, I took up the challenge and 5 Band WAS plaque #3014 is ready to hang on the shack wall. Here are some tips on how you too can do it.

There are two parts to completing this project: Make the contacts and collect the confirmations. First, get familiar with the rules (www.arrl.org/was).

The specific bands required are 80, 40, 20, 15 and 10 meters.

All modes are eligible and there is no endorsement by mode.

The next step is to download and print a copy of the worksheet (www.arrl.org/was-forms) or create a spreadsheet to

keep track of your progress. Next, go through your existing confirmations, both LoTW and paper QSLs, and mark off the ones you have. If you use software logging, much of this is automatic. Now, to help you work the rest here are a few suggestions:

Work the Contests

There are domestic contests most week-ends of the year. Among those events, state and regional QSO parties are quick and easy ways to grow your total. Most of the active stations work various bands throughout the event and will be happy to share their operating schedule. The QSO parties have websites, most of which outline the schedules of active hams in that state or region.

Working the same station on several bands will make confirmation easier. These are usually "low pressure" contests, with no huge pileups or complex exchanges, so even if you're not a contesteer, you'll be welcome and not overwhelmed.

Put the national contests on your calendar as well. Sweepstakes and the North American QSO Party, for example, bring out all states on all bands. If you're not a serious contesteer, just concentrate on working the band/states you need. Note that in Sweepstakes, only one contact with a station is allowed no matter what band you work them on. Most other contests allow contacts with the same station on multiple bands and modes. Don't forget "specialty" contests, like the ones run by the FISTS (www.fists.org) and 10-10 clubs (www.ten-ter.org), as well as the ARRL® 10 Meter Contest (www.arrl.org/10-meter).

Join Some Nets

There are several "WAS nets" that exist to help qualify participants for various WAS awards from their organizations and from ARRL, as well as some general nets that can serve the same purpose. A few of them are 3905 Century Club, OMISS, YLISB, 10-10 International and Geratol (see Table 1). Most meet on a daily basis, with check-ins from throughout the country.

State and regional QSO parties are quick and easy ways to grow your total.



Ron, K2RP, shows off the 5BWAS he earned using 100 W and a wire antenna. [Paul Williamson, KB5MU, photo]

Look who was in the January issue of QST! Check out Ron's article starting on page 78.

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on the 6th of February 2013, Palomar Amateur Radio Club welcomes Andre N6AH as he presents about HSMM MESH, a 2.4 GHz digital network technology which has applicability for EMCOMM.

About Andre: I am a recently-renewed member of PARC and have presented at PARC meetings in the past on a variety of EMCOMM topics; have written papers on EMCOMM topics including one which was presented at the 2008 ARRL-TAPR Digital Communications Conference. I have placed in the top 3 in class in the ARRL June VHF/UHF (6m thru 10 GHz) Contests in each of the past 3 years.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



Above: Compliments of Radio Rover on Flickr, A Yuri Gagarin Amateur Radio Commemorative QSL from the USSR.

Radio Rover writes, "In the old Soviet Union days, Radio Amateurs were give or purchased rather patriotic QSL cards to use that would be distributed worldwide. The Soviet radio amateur would get a stamp with his/her call and other info such as Oblast, name, etc post it on the card. I have a bunch of these pre-fab QSLs from contacts I made when I was a kid that I will post from the late 70s and 80s."



Do you have a mobile installation? Do you want to have a mobile installation, and need some motivation?

We're looking for a few good mobile installations - whether they're completed, on the drawing board, or half-way done and tripping you and your passengers every time you get in and out of the vehicle - to be featured in the Scope. We'd love to show your installation.

Tips, narratives, explanations, techniques, problems encountered and solved (or encountered and evaded) are what we're looking for. Send them in!

scope@palomararc.org

Save the Date

Club Meeting 6 March 2013

The 7:30pm program is by John W. Kuivinen WB6IQS on History of U.S. Broadcast Television

Board Meeting 13 March 2013

Palomar Amateur Radio Club board meeting at 7:30pm at W6GNI QTH.

Field Day Work Parties March 2013

Contact Greg KI6RXX or Charlie NN3V to volunteer.

Fold & Staple that did February Scope
Al Donlevy W6GNI Kathy Donlevy
Jo Ashley KB6NMK Sonny Stires WA5ACE
Roni Elsberry W6EPM Art KB6YHZ

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

Swan Mark II linear amplifier. Clean, working well \$650.

Heathkit HP23B Power Supply with 11-pin cable. Looks and works very well. \$70.
Ron K2RP@arrl.net (760) 436-8109

HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

KENWOOD
rf **CONCEPTS**
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!



Lunch Bunch Meets Again!

To Celebrate Successful World Tour

Above: a photo from last week's Lunch Bunch meeting at the chinese buffet.

See page 4 and 5 for what else they did this week.

The Lunch Bunch welcomes all for a friendly Friday lunch. Locations vary. An email is sent out on Wednesday with details for the Friday lunch.

Sign up at <http://www.w0ni.com>

Access Your Call	Add Call <input type="checkbox"/>
<input type="text"/>	Logon Reset
<p>To add your call to the lunch list just check the "Add Call" box above. Then click "Logon". I will send you an email to let you know where the gang will meet for lunch on Friday. Hope to see you soon.</p>	
<p>73 de W0NI/Tom</p>	



Tube Checkers Working

And Are Now Planning World Tour

I fired up the two club tube checkers that I picked up at the last tower work party.

The EICO mutual conductance checker with a roll chart was OK. I tested several tubes on it and all appears fine. I am guessing mid-70's vintage for it. It has a very sturdy metal case with a metal lid. It is very clean on the inside. The case could use a little metal work and a new coat of paint.

The Shell Electronics emission type tested has a leather covered suitcase style wooden case. It is much older (probably early 50's) and will not check the variety of tubes that the EICO is capable of testing. After replacing a few questionable capacitors, it is OK too. One nice thing about this tester is that you can test 6 and 12 Volt automobile vibrators.

I will bring them to the club meeting next month.

John Kuivinen, WB6IQS
Vista, CA.

The Friday lunch group got a special treat on February 15 when they toured the USS Midway Museum. The “lunch bunch”, including many PARC members, met at Phil’s BBQ in Pt. Loma. After lunch, they headed to the Midway where Joe Garza – AB6RM was waiting to take the group on an extensive tour of the ship.



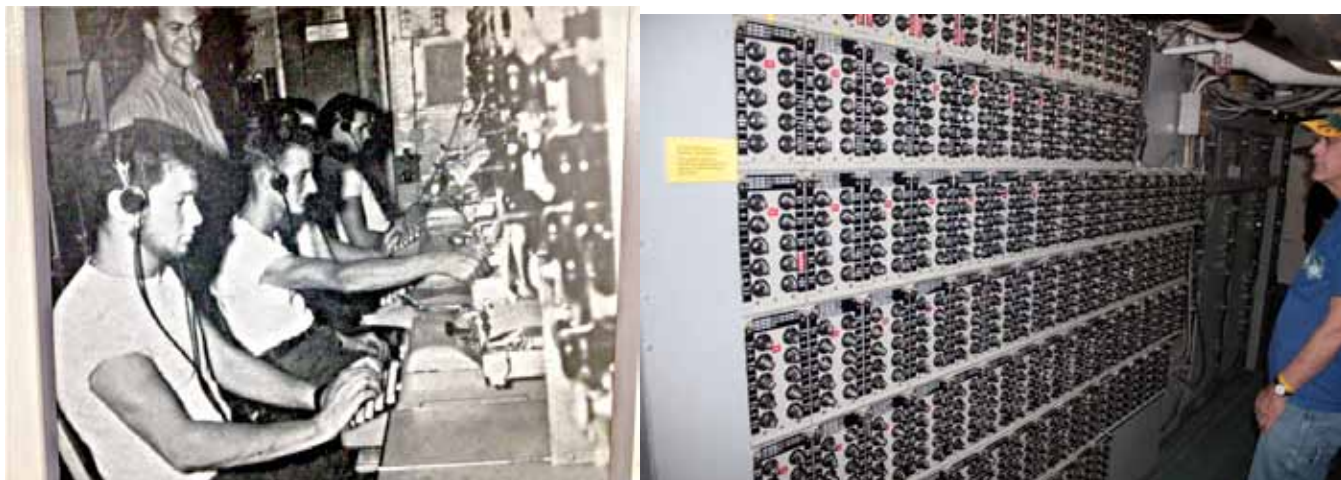
Left to right: Tom/W0NI, Dave/KC6YSO, Paul/K6PKS, Gayle/K6GO, Mike/NA6MB, Nils/KI6TTP, Howard/KY6LA, Rob/WA3IHV, Ron/N6XT, N6XT/Guest, Mitch/K6BK, Joe/AB6RM, and Grant/K6PLR. Front row: David/OK6DJ, daughter and wife.

I was impressed with the Midway when I took a self-guided tour shortly after it opened in 2004. But, Joe’s tour was far more impressive and informative! Our group got to go through some parts of the ship not seen by the general public including the operating ham station NI6IW.



At left, David/OK6DJ visiting San Diego from the Czech Republic was very excited to operate one of three Elecraft K3 160–2M transceivers. On the right, Rob Reichman WA3IHV takes a turn in the operating chair.

The Midway station NI6IW conducts a special event on the second Saturday of the month. On the first weekend in June about ten operators man the station and participate in the all Museum Ships weekend event. They operate SSB on 20M, 40M. Plus PSK31 and other digital modes on 20M, analog FM VHF, and D-STAR to make as many contacts as possible during the six hour event. The station also includes four networked laptops containing the N1MM logging program. The laptops support various programs for centralized logging, digital modes, Internet/Telnet access lines for DX Clusters/Spotting, and call sign look-ups.



At left Operators on the Midway in the 1960's copy CW on a typewriter. Could have been N6KI or WN6K? At right, Paul/K6PKS surveys a large communications panel.

NI6IW also operates the Navy Marine Corps Military Auxiliary Station (MARS) NNN0CQQ using SSB, FM, and digital modes. The MARS station is used to support Department of Defense emergency management communications during exercises or real-world events. The Commander, Navy Region Southwest, is the main user and customer of MARS services.



The Midway's organic antennas are used for HF operations and with this lofty location they play very well indeed. Photos used here were taken by Mitch/K6BK and Conrad/KG6JEI. All rights reserved. Article by Tom Ellett – W0NI.

You can sign up to receive an email notice of the regular Friday lunches. Just go to www.W0NI.com and check the "Add Call" box. You'll receive an email each Wednesday as to the location of the Friday lunch. The lunch bunch has been meeting for over twenty-five years and they rotate between 8 favorite restaurants.

We have another winner! Congratulations to Charlie NN3V!



MOVING TOWER TO SAWHORSES.



OLD CABLE READY FOR RECYCLE.

Tower Work Party

Photos by Dennis KD6TUJ



ONE OF THE TWO WINCHES OF CONCERN WITH NO LOCK PAWL.



STRINGING NEW HOISTING CABLE ON TOWER.

IMPULSE Electronics
 (760) 747-5277 – (866) 747-5277
www.impulseelectronics.com
**Your Connection for
 Emergency Power Solutions**

Power Products

Power Pole Connectors – Power Cables – Tools
 AGM Batteries – Red/Black Zip Cord 14 – 8 GA

West Mountain Products

RIGrunner – RIGblaster – Accessories
 PWRgates – Computerized Battery Analyzer
Coax Cable – Coax Assemblies – Adapters
Terminals – Coax Connectors – Battery
Chargers – Battery Accessories
 Email sales@impulseelectronics.com

Join Palomar Amateur Radio Club on Facebook

Palomar Amateur Radio Club About Events Photos Files

Write Post Add Photo / Video Ask Question Add File

Write something...

RECENT POSTS

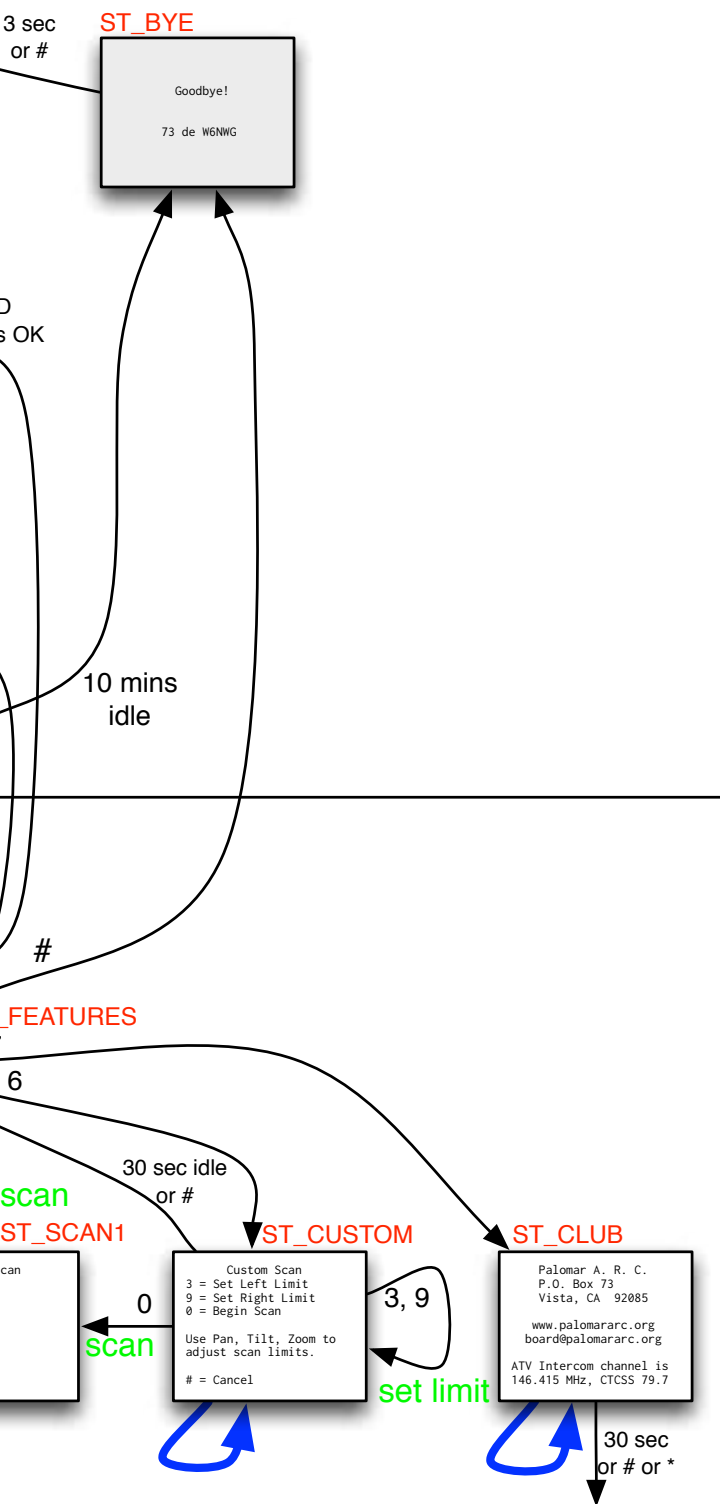
Michelle Thompson
 Draft of club newsletter done – sending it out for review!
 Like · Comment · Unfollow Post · 6 hours ago
 4 people like this. Seen by 18
 Write a comment...

OLDER POSTS

Donald Johnson added photos to February 7, 2013.

Unlike · Comment · Follow Post · February 7 at 6:15am
 You and Pat Ryan like this. Seen by 33
 Write a comment...

Joseph Peterson
 Reminder: Feb 5 4x4 net is not happening as I am in Phoenix and just don't have the power to reach back to San Diego ;-)
 Like · Comment · Follow Post · February 4 at 9:02pm near Phoenix, AZ
 Seen by 34
 Write a comment...



W6NWXG

Palomar Amateur Radio Club Repeater Site Tower Camera DTMF Remote Controller Menu State Diagram

February 14, 2013
Paul Williamson, KB5MU


Black background means that no video is transmitted.

Gray background means that the characters are displayed on a plain gray background.

White background means that the characters are overlaid on video from the tower camera. Besides the characters shown here, the camera itself overlays "73 de W6NWXG" in the upper left corner, and adds a preset name/number when a preset is in use.

The small boxes represent characters added to the preceding screen to echo user input. The access code is echoed with asterisks. Other digits are displayed as entered.

RED represents state names in the code.

 represents keypad operations for pan, tilt, zoom, focus, etc. unless overridden by an explicit keystroke action.

Green represents, in simplified form, commands that get sent to the camera, other than the keypad operations.



Paul explaining the system.
Photo by KG6JEI.

First Work Party

Saturday February 2, 2013

The Palomar Amateur Radio Club with coordination from Charlie, NN3V held its first Field Day Work Party. This is the first of more to come. The goal of these work parties is to assess the condition of the Clubs equipment and prepare it for its use at Field Day in June. The last thing we want during setup at Field Day is any surprises or accidents and we will use this time to make any repairs found to be necessary from its use last Field Day.

In attendance where Charlie NN3V, Tom KG6RCW, John WB6IQS, Glen WA6GHW, Conrad KG6JEI, Jerry AK6QJ, Richard KJ6WUY, Rich NI6H, Gary W3LFR, Brian AG6CF, and myself Greg KI6RXX.

The work party started around 10am, at the Tow Wizard site where the club equipment is currently stored, and ended around 1pm. Our plan was to restring two of the towers with 1/4 inch galvanized aircraft cable. This is the wire that is used to crank up the towers and extend their height. The wire that we ordered ended up being slightly larger than what we had on there but fit perfectly and should provide more tensile strength. This is a good thing - especially when I am standing under them! The wire was ordered for us by Conrad on behalf of the club. Combining his tower trailer needs along with Denis and others allowed them and the club to save on cost and shipping.

The day was partly cloudy and warm. It was a perfect day to work on the towers. Restringing the towers went more smoothly than we had anticipated and we were able to restring 4 out of the 5 towers and even help Dennis restring his tower trailer. The fifth tower is up on a storage box and will require a great effort to get down and has been decommissioned for the past few years. Its condition will need to be assessed at a later time.

When we were finished, many of us headed to the Breakwater Brewing Co. on the coast Highway in Oceanside and were treated to a round of beers from Charlie. Thank You Charlie! Most had the Old Blue Eyes, an Old English style Brown Ale at 9.5 ABV. It was very good.

Our next work party will involve erecting the towers to ensure they are free flowing and there is no more hardware work to do. This will happen after the reconditioning the crank mechanisms we removed is completed and they are reinstalled. We will also need to finish rotating some of the tower bases to allow better transport and replace one of

the eye bolts in the base of a tower that bent last Field Day. One of the towers requires installation of a small pulley (block & tackle) at upper end of tower for use if a wire antenna support, flag, etc. has to be hoisted once the tower is erected.

Many thanks go out to all who attended and helped out with this work party! We will announce the next work party as we get more information about the cranks.

73, Greg Gibbs KI6RXX

Alert: Stolen Radios

Contact Peter at pssd@sbcglobal.net

On Thur night Jan 31, 2013, between 8pm~12midnight a white male, tall, 30'ish and bald or close to bald, broke into my minivan and stole two amateur radios in Rancho Bernardo. I did not see the burglar, however, a neighbor gave the follow description as she saw a stranger hiding next to some bushes across the street from my house at around 11:30 pm when she returned home.

I filed a police report(San Diego), but I thought that I might as well let the ham community know about this theft.

The thief punched the driver's door lock to gain access.

1: ICOM IC706 (microphone is missing), serial number for IC706 006019. It also had the optional narrow SSB filter FL-223. The power cord had a cigarette lighter plug on the end which is broken off. It also had the extended cable for remote mounting of the head, but the head mount is not present.

2) Kenwood TH79, with an aftermarket Diamond(may be it was Comet) extended range super flexible antenna. The battery pack is not stock it was cut open and LiIon cells are inside. On power up, the display should say VE7 CQA

Not Amateur Radio items:

- 1) old old Sony Navu car GPS(looks like miniature crt tv set)
- 2) tire pressure gauge(round dial) but it reads in Bar, not psi
- 3) no-brand stun gun (modified to use lithium 2/3A cells(3)
- 4) car battery booster(black box) uses 12 V gel cell(in a black nylon outer cover)
- 5) rear view mirror for a caravan, with a extra wider mirror clipped on

what dummy to take the rear view mirror. He broke the glass near the mount(i had used JB Weld to glue the shoe on to the windshield)
6) home made 12 V battery monitor(analog meter plus a red LED panel meter) connected to a cigarette lighter cord.

SANDARC 2013 Chair Election

This April the San Diego Amateur Radio Council (SANDARC) will be holding an election for their board of directors. It is for a two year term. I am writing this article to let members of PARC know I want to grow Amateur Radio in San Diego. I did it in Escondido, now I want to do it for the entire county.

My actual goals are:

Publicize the up-coming SANDARC Convention through the many marketing avenues I have cultivated during my 7+ years at UT San Diego (formerly The San Diego Union Tribune).

Create a countywide Elmer's List where we can list what every HAM's specialty is so that a new HAM can find an Elmer on areas they need help.

Design a facebook page where all SANDARC activities can be shared across the county.

Establish a Delegate Team that will visit clubs and offer advice and assistance on help each club may need - like - Advertising, Membership, Club Presentations, Field Day, Club Websites, and much more.

Write a presentation we can give to local high schools promoting the fun and benefits of becoming a HAM.

Distribute a quarterly newsletter - maybe call it the SANDARC Sentinel.

These items are just a brief outline of what I want to do as SANDARC Chairman. You're probably asking yourself why I am sharing this with you. I am because PARC is a SANDARC delegate club and I am hoping you will tell your board to have PARC's SANDARC delegates vote for me.

Please send me your thoughts and ideas for the future of Amateur Radio in San Diego County.

73,

Robert J. Kitson, KI6SBL
EARS 2013 SANDARC Delegate

Info for March SCOPE

8 past members Reinstated – Welcome Back!

While we certainly appreciate Reinstated members, we believe many "Reinstatements" are due to members not aware that their membership was due.

Since many members now get the News Letter (SCOPE) on the web, they don't receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member's calls that are getting close to renewal time. Previously, we listed the memberships that had expired, and some didn't like that at all!

The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew you membership.

ZZ9WGF, KE6CWP, KE6CWM, KK6GO, KY6LA, K1WTS, KJ6WTS, KJ6DYG, KJ6TIM, KG6WGD, K6JPE, KH6GK, ND6W - more next month!

**Thank you,
AI W6GNI Membership**

DIY Antenna Tilt Base

W6PUG

A year ago, I got my Gap Challenger, and wrote an article about using a garden auger to make the hole for it, as opposed to a backhoe and a major earthmoving event, and that has worked well for me. Now, a year later, I need to do some maintenance on the antenna. A screw came loose in one of the middle (of course!) connections and some other minor maintenance that needs to be done, and here I am with a 32 foot whip stuck up in the air, and a 5-1/2 foot me trying to figure out how to get it down so I can work on it, without constantly imposing on my neighbors. I looked at several tilt-over mechanisms, running in cost anywhere from \$100 to well up over \$350, and did not feel like I should have to take out a second mortgage on the house so I could work on my antenna. One of the reasons these are so expensive is that the tilting mounts are designed to support a free-standing antenna, which is not what I need, as I have a brace to the patio cover 8 feet above ground.

Off to the scrap bin I went, and dug out a piece of scrap aluminum plate from a previous project and a couple of 1/2x10inch galvanized lag bolts. A quick trip to the hardware store provided me with 4 stainless steel cap screws and nuts with integral star washers, 2 “U-bolt” clamps and nuts, small bag of “Sakrete” (pre-mixed dry concrete) and a hinge. Cost was about 14USD.

Step 1: Smooth down the edge of the aluminum plate so I have a 4x18x1/2 inch plate. Half-inch plate is big overkill, but it is what I had in my scrap pile. Drill 4 holes to match to longer section of the hinge and attach hinge to plate with the stainless cap screws. Drill out the bottom holes in the hinge to allow the lag screws to penetrate.

Step 2: I pulled the PVC isolator out of the ground, and cut it so that it is 1 inch longer than the base section of the antenna base (the Challenger is a folded vertical dipole) – about 18 inches total in length), filled the 36 inch deep hole with Sakrete and water, and when semi dry, spray the lag screws with silicone lubricant and screw the lag screws through the hinge into the concrete (I had to use an electric “hammer” drill, although a socket wrench would have worked) and level/plumb the aluminum plate to vertical (perpendicular to ground). Ensure you set the hinge in such a manner that the antenna will have a clear path to “lay down” when tipped over. The feature won’t do a lot of good if you tip it into a tree or a hill <smile intended>. The silicone spray did enable me to tighten the lags a bit, and they could be withdrawn if necessary (although I cannot imagine why you would do that!)

Step 3: Off for a cup of coffee, and find something else to do until the Sakrete has “set”. I did not get back to the project for about 6 hours and found the concrete had set fairly well (antenna weighs about 30 pounds).

Step 4: Next morning, I slid the schedule 80 PVC isolator tube down into the U-bolt brackets (ensuring the tube is on the side of the plate opposite of the hinge) and tightened the nuts on the U-bolts snug and tested the hinge over feature – which went perfectly: the isolator tube lays over the hinge as expected, and the hinge is well-anchored to the concrete “mini-pier” in the ground.

Step 5: Slide the antenna into the insulation tube, and commence “hand-walking” your antenna to a vertical position (note no mention of the neighbor!). Check plumb (perpendicular to ground).



Note the gap between the bottom of the open tube insulator and the ground (arrow), to ensure rainwater can evacuate from inside the insulating PVC tube.

Lash the antenna to a nearby vertical support (assuming you are affixing it to your patio cover or similar), then proceed to put the permanent strut to your vertical support (I used a 1.5 inch pipe flange affixed to the patio cover, a short piece of threaded schedule 80 PVC pipe with a $\frac{1}{2}$ inch hole drilled next to a depression “saddle” whittled into the antenna side of the support, and a hose clamp).



Now, when I need to lay the antenna down (which I just did this morning), it is a one-man operation, and easily done. Your own design will vary with your type of antenna and support, but the idea is simple. Adapt it to fit your own situation. Today, I am having wind gusts of 35mph and nothing is even showing a hint of moving! I like simple solutions to simple problems. Hope this gives you some ideas – and no doubt you will invent some improvements! Cheers to all – 73 W6PUG Doug



Here are two additional photos of the antenna tipped over and also back up in working position.



NiCd Lady Company

Grace Lloyd
N6WPA
grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs
20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/906-6423
951/653-8868
Fax 951/653-5189

Your Complete Battery Source

RF PARTS™
COMPANY
From Milliwatts to Kilowatts™

Complete inventory for servicing amateur and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com

Since 1967



A PAYLOAD



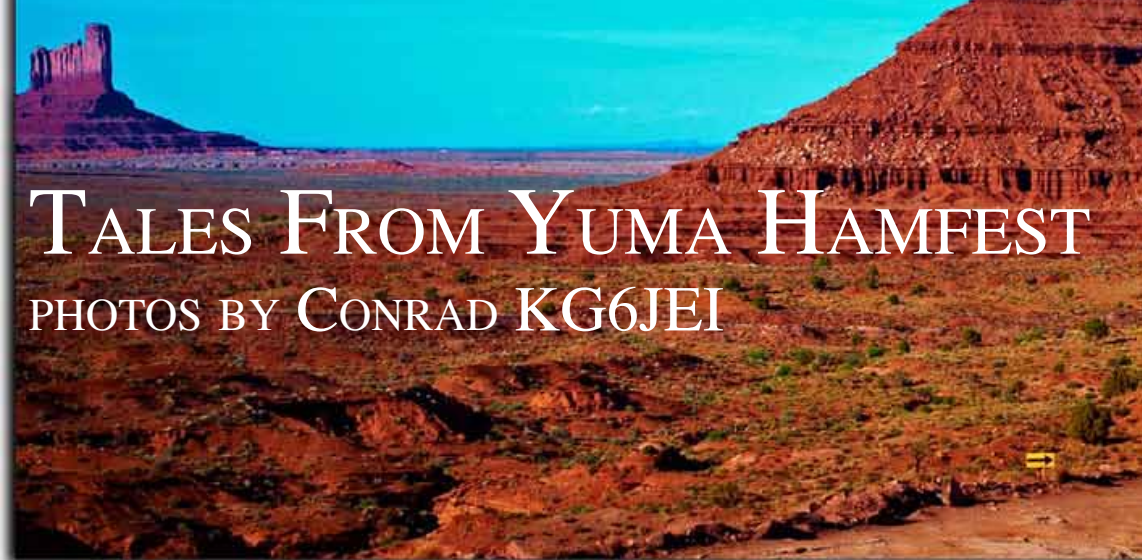
TWO MILES DOWN THE ROAD...
WHERE IS THAT PHONE?



OUCH LANDING HURTS!



GIFT FOR HOWARD



TALES FROM YUMA HAMFEST

PHOTOS BY CONRAD KG6JEI



OFFICIAL MASCOT

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

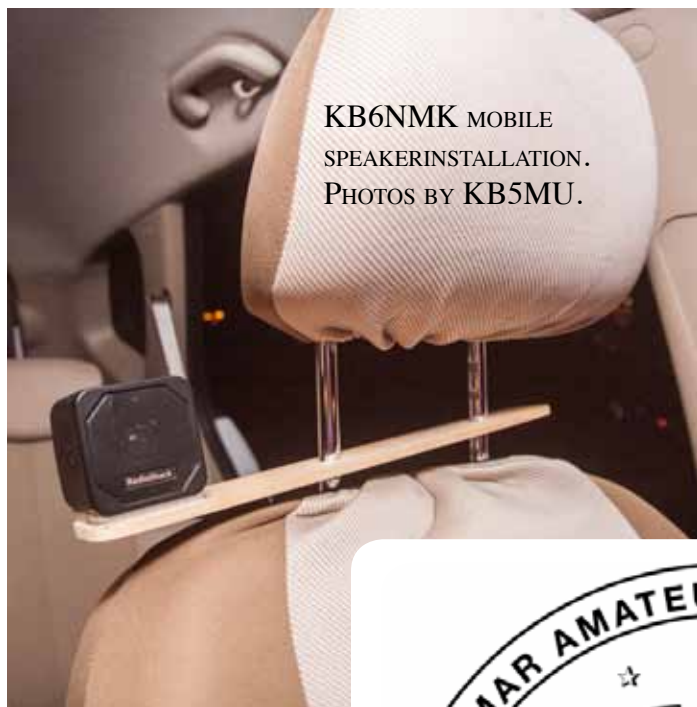
At 7:30pm on the 6th of March 2013, Palomar Amateur Radio Club welcomes John W. Kuivinen WB6IQS as he presents on the History of Broadcast Television in the US. His talk will cover early history of B&W/color TV of the 1930s-1950s, a history of HDTV from 1968 to the present, the different types of TV signals (analog and digital) currently available in consumer devices, a comparison of available scan rates vs. picture resolution for different types of signals, RF splitting of the CATV and OTA (Over The Air) RF signals, why you may or may not need a broadband RF amplifier, and basics of coaxial cables for distributing CATV and OTA signals.

John Kuivinen, WB6IQS, works for a company in Carlsbad that manufactures and OEMs digital and analog TV modulators, broadband RF amplifiers, security TV cameras and home audio/video appliances.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



KB6NMK MOBILE
SPEAKER INSTALLATION.
PHOTOS BY KB5MU.

Jo Ashley, KB6NMK, came up with a clever way to mount a speaker close to the driver's ear in just about any car, with no modification to the car. The driver's headrest is typically mounted on two parallel posts, so it can be adjusted to the right height for each driver. Generally the headrest and its posts can be pulled all the way out of the seat back.

It's quite easy to drill two holes in a strip of wood and pass the headrest mounting posts through them. A small enclosed speaker can then be mounted on the strip of wood as shown here. In Jo's installation, the speaker wire is then routed behind the driver's seat, tucked inside a fabric seat cover, to the main body of the transceiver mounted beneath the seat. The radio's control head is mounted conveniently on top of the steering column.



KB6NMK RADIO HEAD
INSTALLATION.



Save the Date

Club Meeting

3 April 2013

The 7:30pm program is
Wild Bill & Ellen: "An
Electrifying DXPedition to
Qatar 2010 CQWW"

Board Meeting

10 April 2013

Palomar Amateur Radio
Club board meeting at
7:30pm at K2RP QTH.

Field Day Work Parties

6 April 2013

Contact Greg KI6RXX
or Charlie NN3V to
volunteer. 10am - 2pm!

Fold & Staple that did February Scope
Al Donlevy W6GNI Kathy Donlevy
Jo Ashley KB6NMK Sonny Stires WA5ACE
Roni Elsberry W6EPM Art KB6YHZ

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

Swan Mark II linear amplifier. Clean, working well \$650.

Heathkit HP23B Power Supply with 11-pin cable. Looks and works very well. \$70.
Ron K2RP@arrl.net (760) 436-8109

For Sale

The Alinco DJ-580 illuminated keypad button does not work.....No Backlighting of keypad, Transmit coverage is: 130-173.995 and 400-519.0995 with Mars/Cap Mods completed, Radio has no worn pads and all LCD display functions work as new, case looks like new, this radio comes with (1) EBP-20X 7.2 volt 1650Mah battery used only a few time before put away, (1) EBP-20N 7.2v 700Mah pack (not sure how long it will last) (2) EDH-11 dry cell pack (1) Yaesu dual band antenna and (2) Alinco EDC-24 Slow chargers and (1) DJ-580. I have checked this radio on simplex and our local repeater and it sounds fine, you would be hard pressed to find a radio in better condition than this one. excellent condition, As with all electronics this radio is sold AS IS, It will not be DOA, asking \$100 OBO, James 760-722-2797.

For Sale

Kenwood Communications Receiver, Model R-599 with factory installed 2m converter. \$100.00
Pete, K6JQE 858-755-4838. Solana Beach



Anyone need a high current 12 VDC power supply, maybe for solid state amp or something similar? It is two very efficient 6 V DC supplies in an acoustic wood box.

It's custom built to cut down noise of its two 4-inch muffin fans.

I built it for Larry N6NC 10 years ago to power his 500 watt Solid State HF amp and Larry no longer needs it as he sold that amp.

It weighs 50 lbs.

Dennis N6KI

In answer to the EU proposal to update the standard phonetic alphabet (see page 10) the FCC has received the following proposal.

A Are	N Nine
B Bee	O Owe
C Cite	P Pseudonym
D Double-U	Q Queue
E Eye	R Rap
F Five	S Sea
G Genre	T Tsunami
H Hoe	U Understand?
I I	V Vie
J Junta	W Why
K Knot	X Xylophone
L Lye	Y You
M Me	Z Zero

Follow up information for the most recent FARC meeting program:

Lets Get Serious About Digital Communications: Using RMS Express.

Links to down load, and to videos:
<http://www.fallbrookarc.org/digital.html>



The drawing, having completed ticket sales to cover the item, was conducted at the end of the March 2013 meeting. The winning ticket, drawn by some scoundrel, belongs to Tim N6CUX who chose the rig runner power block with usb, crimper, and starter pack of power pole terminals.

HAM RADIO OUTLET

Jose XE2SJB
 Jerry N5MCJ
 Joe N6SIX

H
R
O

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m.
 Monday thru Saturday *Ask about our great prices*
 858 560-4900
 or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

OPERATING DAY

Sunday, April 28, 2013



FRY'S ELECTRONICS

150 South Bent Street

SAN MARCOS, CALIFORNIA 92069

9:30 AM to 5:30 PM

HOSTED BY PALOMAR AMATEUR RADIO CLUB

www.palomararc.org

contact Dennis KD6TUJ (760) 672-0223

Come operate on the ham bands at Fry's
70cm, 2m, 6m, 10m, 15m, 20m



KI6LKP Mobile Installation

In the summer of 2011 I realized that my first HF rig would most likely be mobile since my HOA says no to visible antennas. Although my truck is a 2002 model, I wasn't anxious to be drilling any holes in it. I chose to use the Yaesu 857d, and the ATAS 120 antenna because it's all basically "plug and play". Starting at the battery are (2) fuses, one positive, one negative. Power-Poled to #8 stranded through the firewall, under the driver's side door thresholds, and ending behind the rear seat. This feeds the radio that is mounted to a 3/8" piece of plywood, and hidden



PHOTO 5

under the rear seat on the driver's side. Here it has good ventilation, is out of the way, and is very easy to access and remove. (Photo 5)

The remote head fits nicely on the lower part of the dash. The position is handy since I can easily rest my elbow on the armrest and make radio adjustments



PHOTO 1

while driving. (Photos 1 & 2)

For operating while in the passenger's seat, I fabricated a round wooden block that perfectly fits into one of the cup holders on the armrest. Enough control wire is coiled below the dash to easily move



PHOTO 3



PHOTO 4

the remote head between these two locations. A nice feature of the 857 is a headphone jack on the remote head. This is particularly nice when my wife is driving and I want to play radio. (Photos 3 & 4) Typically, I use the Vertex speaker that neatly tucks



PHOTO 2

between the front center seat and the floor without screws. (Photos 9 & 10)

Antenna mounting is basic. For the ATAS, the Diamond C-101 on a simple stainless “CB” mount. It even comes with a nice cap to keep water out when the antenna is removed. When the ATAS is removed, the mount is virtually invisible. (Photos 6 & 7)

For 2-meter and 440, I still use a Larsen glass mount.



PHOTO 9



PHOTO 8

Although it's not the best, it works okay, and makes an easy installation. (Photo 8)

Being a diesel, there is no ignition. However, at times, the electronically controlled fuel injectors can be annoying. To help eliminate this, I added numerous grounding straps throughout the truck. Key points are: Exhaust/frame, pickup bed/cab, and the hood/fender.

Occasionally, I get some noise, but not often. Someday, I would like to do a simple comparison between the ATAS and something like a HamStick. But I have no complaints, for I've had some pretty good SSB reports from Japan, New Zealand, Moscow, Christmas Island, N. Finland, and of course lots of domestic.

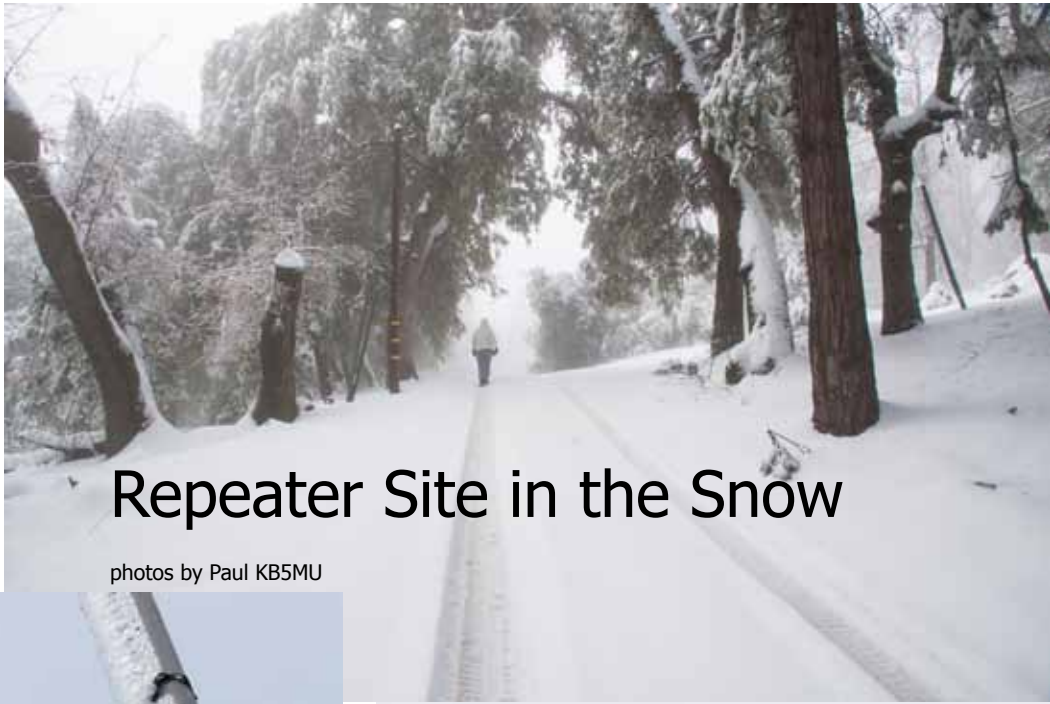
73, Dave KI6LKP



PHOTO 6



PHOTO 7



Repeater Site in the Snow

photos by Paul KB5MU







Another winner! Congratulations Ron on your Sweepstakes achievement!

New Phonetic Alphabet

Robyn Stewart

You may not be aware that a team of international academic authorities has been commissioned by the European Community to create a new phonetic alphabet free of patriarchal references (such as Papa) or words that might otherwise be offensive to minorities (e.g., Zulu) or those of differing gender. (Romeo, for instance, connotes a sexually obsessed individual, possibly a harasser.)

Fortunately, we have been able to obtain an early sample of their work. Try any common communication, and you will realize that a mere \$238 million has been well spent!

A	Affirmative	N	New
B	Bearing	O	One
C	Czar	P	Ptomaine
D	Disregard	Q	Question
E	Emergency	R	Repeat
F	Fire	S	Say-again
G	Gnu	T	Tsunami
H	Hijack	U	Unsafe
I	Iago	V	Violation
J	Jalepeno	W	Weather
K	Knew	X	Xerox
L	Llanelli	Y	Ypres
M	Mnemonic	Z	Zero

IMPULSE Electronics

(760) 747-5277 – (866) 747-5277

www.impulseelectronics.com

**Your Connection for
Emergency Power Solutions**

Power Products

Power Pole Connectors – Power Cables – Tools
AGM Batteries – Red/Black Zip Cord 14 – 8 GA

West Mountain Products

RIGrunner – RIGblaster – Accessories
PWRgates – Computerized Battery Analyzer
Coax Cable – Coax Assemblies – Adapters
Terminals – Coax Connectors – Battery
Chargers – Battery Accessories
Email sales@impulseelectronics.com

Info for April SCOPE

Good news, PARC Membership is up over 5 members last month.

While we certainly appreciate Reinstated members, we believe many “Reinstatements” are due to members not aware that their membership was due.

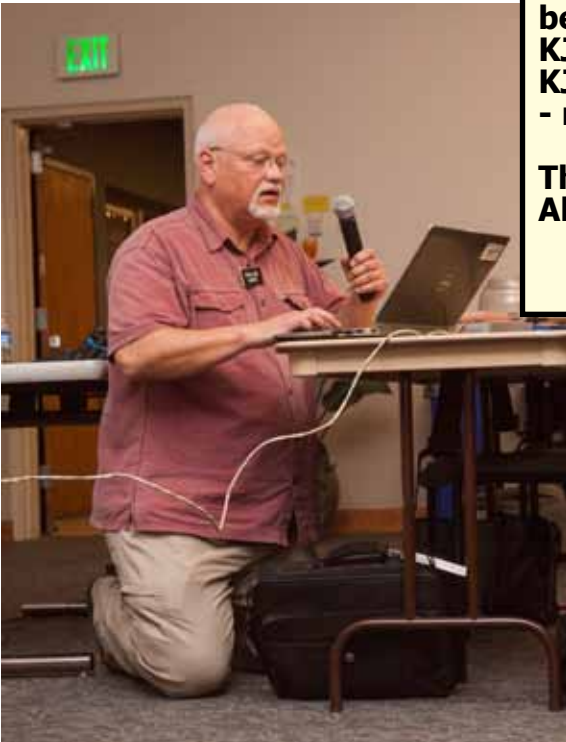
Since many members now get the News Letter (SCOPE) on the web, they don’t receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member’s calls that are getting close to renewal time. Previously, we listed the memberships that had expired, and some didn’t like that at all!

The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership.

**KJ6UMG, KI6IET, KJ6SKY, WO5K, KJ6ZAP, KJ6MDB, KJ6UWT, AND KJ6WUY,
- more next month!**

**Thank you,
Al W6GNI Membership**



February Meeting Photos - more meeting photos on the way in May! Photos by Paul KB5MU.



A Troubleshooting Victory

by Dick K6KAL

PC Tip No. 77

Strange Things Happen

I have used my Toshiba Laptop (A215-S7444) for several years now, adding and removing software for testing, both business and pleasure (Ham Related).

After several updates to my Win 7 partition, (Actually too many to count) I began receiving 'Blue Screens' indicating the system had to shutdown to prevent hardware damage. Each time I reviewed the 'Event' log, (*See Note 1*) it pointed to 'Core 1' error.

Thinking I had finally used up my machines usable life, I began shopping for a replacement. NOT. I could not let an ambiguous error go undefined. I did some research on the error codes, and concluded it was one of the 2 processor cores had gone bad. This was not a continuous thing, only intermittent, usually at the wrong time, like while contesting.

Each time the failure occurred, the pattern of errors was the same, culminating with the blue screen. At the time I did not pay much attention to the one 'Warning' message, only the main 'ERROR' messages.

After some on-line search I found a replacement processor for the outrageous price of \$ 17.00 with free shipping. (Amazon). I received it in record time, and went about replacing the processor. As long as I was replacing it, I choose one with a faster clock speed, so if it worked, it would be like having a new PC.

The installation went well, and the PC powered on with out a problem. The first few days of heavy use show no signs of hardware related issues. Then it started again when I was chasing some DX. All that work, and no Joy to be had.

I pored over the logs, now giving attention to the 'Warnings' . To my surprise, or not, during one of too many windows updates, Microsoft has updated the FTDI drivers. Well this should not be an issue, well knowing that I had 3 FTDI devices.

The one update at issue was a 'Keyspan' USB to serial converter that I have used for some time. The MS update saw the device, and deemed it 'old', and loaded 'Old' FTDI drivers unknown to me at the time. They seemed to work as before, except that when I got a little RF into the shack, the device would fail --- intermittently. This appeared to be when the software was accessing the DX spots from the clusters. The whole system would hang for a moment, then present the blue screen. The errors reported as to the 'communication failure' were red hearings.

The real error was that MS had caused the load of a USB ver 1.1 driver for my FTDI device, that was not compatible with the Win 7 64 bit operating system. You would

think they would have checked for this kind of issue, and warned or not allowed the device installation.

I have since updated the windows 7 64 bit driver from the Keyspan site (now a Tripp Lite company) and it has been working without error for almost two months.

This kind of issue is not normal, and if it were not for some dogged persistence on my part I would be the owner of a new laptop and the associated issues related to re-loading all that blasted software I have accumulated over time.

So the moral of the story if it has a MS label on it, do not believe every thing you read. With as many combinations of PC's, laptops and the associated USB devices, the error logs are only a starting point for the troubleshooting major issues.

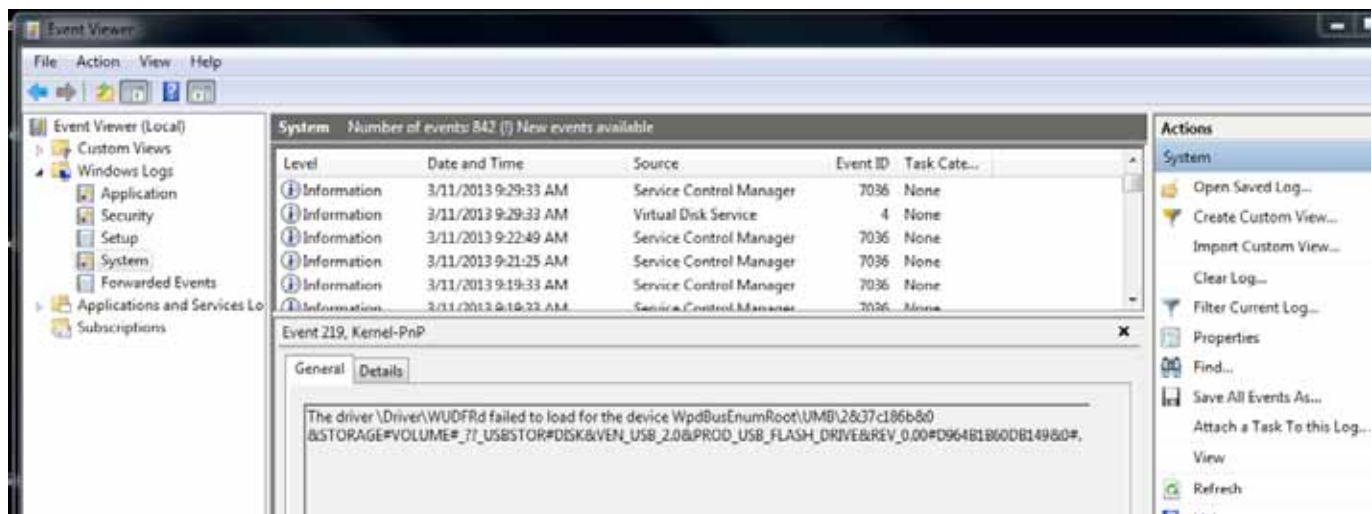
I used some of the tools I had outlined in other PC Tips I have authored (for EARS), and was able to spot the issue (eventually).

Do not give up on a troublesome PC. It may well be repairable.

Note 1:

To access the 'Event' log, go to the Control Panel, then select 'Event Viewer'. After the utility loads, expand the 'Windows Logs' folder the left hand pane, then select 'System'. It may take some time, as it has to organize a possibly very long list of log entries. In the top center pane is the listing of all the log entries since the log was last cleared. I keep this log to somewhere less than 2000 events, as they can consume lots of disk space. The entries will be one of three types, Information, Warnings, or Errors.

The right hand pane has an option 'Clear Log' that will give you an option to save the old log before clearing. (Save for what ?). I just select the clear and delete the old log. It will not take long to fill up the log again.



Windows, arghaaaaaaaaaaaaaa!

by John WB6IQS

There is an old engineering saying that goes "before you can begin to do anything, something else has to be done first". Last night was a perfect example of that.

I went on-line and found RSM Express for amateur packet radio. It is a Windows based program. Rich (NI6H) suggested that it was better than just using Putty or some other terminal emulator program. Putty is OK for just entering data parameters into the TNC and doing basic tests. However, to operate efficiently and send files you need a better program.

I downloaded about 6 parts of the RSM program (over 50 MBytes) and tried to load it onto an older Windows XP laptop. I was then told that I need some sort of Windows 3.5 Network program.

Looking around for Windows 3.5 Network and trying to download it, I then found out that I had to upgrade my Windows XP program. An hour later I had upgraded Windows XP and again tried to download 3.5 Network. Then I found out that the Windows XP 3.5 Network SP1 program was 231 MB in size.

At my slow AT&T DSL rates this was about 1.5 hours of downloading followed by about a half hour of installing.

I finished installing 3.5 Network SP1, was then able to install RSM Talk. Then before the computer would turn off I had more Windows XP updates (11 parts in total) to install. This took an additional 20 minutes.

Anyway, I worked at this from about 7 PM to 11:30 PM to install one RSM Talk program and I still have not attached a packet TNC to a radio.

John Kuivinen, WB6IQS@att.net
March 12, 2013
Vista, CA.

NiCd Lady Company

Grace Lloyd
N6WPA
grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs
20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/906-6423
951/653-8868
Fax 951/653-5189

Your Complete Battery Source

**RF PARTS[™]**
COMPANY
From Milliwatts to Kilowatts[™]

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES
Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com



Dear Fellow DXers:

As you know, there is a group of highly experienced DXpeditioners that will be heading to Wake Island in October 2013, using the callsign K9W.

There were 98 civilian contractors working for Morrison-Knutsen who lost their lives on the atoll in October 1943. This group has been named the "Forgotten 98". Our operation, observing the 70th anniversary of their deaths, will be dedicated to keeping their memory alive and honoring their sacrifice. Team Leader is Lou N2TU, and the Management Team is Joe W8GEX, Craig K9CT, and Joe AA4NN.

Wake ranks # 25 in DX Magazine's "Most Wanted Survey", and # 15 in Club Log's "Most Wanted Entities". A very experienced team has been formed, and they plan to operate five stations over a 14 day period, 160 to 6 meters on all modes. Wake Atoll's access is limited and the time frame is dictated by transportation and weather. Official landing permission has been granted and a firm date will be announced soon.

As with other DXpeditions of this magnitude, this is an expensive adventure. Location, transportation, island costs, and other logistics make this costly. Therefore, we are requesting financial support from the DX community. We ask that you present this request to your club membership for consideration, and we sincerely appreciate any help your club can provide. Clubs that contribute over \$500 will see their logo on the QSL card, and their logo will be on all presentations that will be shown worldwide. All contributions are also listed on our website. Procedures for making donations can be found on our website at www.wake2013.org (<http://www.wake2013.org/>). You may also contact our treasurer, Craig Thompson K9CT (craig@thompson.net) for assistance. Our website also shows the names of those that lost their lives there in 1943. We look forward to hearing from you, and thank you in advance for your consideration and financial support.

Janet Pater W8CAA
Fundraising coordinator for the Wake Team

Commemorative Team members:
Joe AA4NN, John K6MM, Carl K9CS, Craig K9CT,
Mike K9NW, Lou N2TU, Tom N4XP, Tom ND2T,
Dick W3OA, Joe W8GEX, Hal W8HC and
Jerry

Contest Results

Wow !

We done good !

While attending Yuma SW ARRL Convention, I joined Dave K6LL in Yuma

for ARRL DX CW

Lots of fun operation from Dave's QTh with NO Noise and his moderate stn gets out VERY WELL !

50 ft tower with 6 EL KT-34XA Tri-bander - 2 El Shorty Forty at 56 ft and 80 Mtr Wire Ant off tower

We even beat out Stanford ARC W6YX !!!

N6KI

Call	QSOs	Mults	hr	Score	Club
US/VE M/S HP					
W2FU	5252	589	48	9,267,915	NCC
W2RE	5163	571	48	8,839,080	HVCDX
K1RX	4343	489	44	6,371,181	YCCC
K2QMF	3876	538	46	6,255,864	OBONY
K8AZ	3665	557	48	6,122,544	NCC
K5TR	2899	554	~48	4,818,138	CTDXCC
K1HI	3306	460	48	4,551,240	YCCC
N3BNA	2680	508		4,082,796	FRC
K5RX	2450	510	48	3,742,380	NTCC
K0TV	2452	497	39	3,655,932	YCCC
AA9A	2159	488	45	3,159,312	SMC

K6LL 2243 434 40 2,920,386 AOCC

W6YX	2046	427	37:04	2,617,083	NCCC
N4GI	2032	376	30	2,285,328	FCG
KA2D	1353	369	22	1,497,771	OBONY
W3LJ	1143	365	30	1,251,585	PVRC
KA1IOR	970	333	26.25	967,032	YCCC
VE7IO	469	183	16	243,756	Orca
DXCC					
W7DXX	439	157	12	206,769	
AD4ES	344	198	8.15	204,336	FCG

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on the 3rd of April 2013, Palomar Amateur Radio Club welcomes Wild Bill: "An Electrifying DXPedition to Qatar ~ Operating as A73A in the 2010 CQ Worldwide SSB Contest"

You don't want to miss this one! Lightning doesn't strike twice.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



Save the Date

Club Meeting **1 May 2013**

The 7:30pm program is about the Red Cross.

Board Meeting **8 May 2013**

Palomar Amateur Radio Club board meeting at 7:30pm at K2RP QTH.

Field Day Work Parties **May 2013**

Contact Greg KI6RXX or Charlie NN3V to volunteer.

Fold & Staple that did February Scope
Al Donlevy W6GNI Kathy Donlevy
Jo Ashley KB6NMK Sonny Stires WA5ACE
Roni Elsberry W6EPM Art KB6YHZ

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors. Insertion loss is .9 dBa per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

For Sale

Swan Mark II linear amplifier. Clean, working well \$650.

Heathkit HP23B Power Supply with 11-pin cable. Looks and works very well. \$70.
Ron K2RP@arrl.net (760) 436-8109

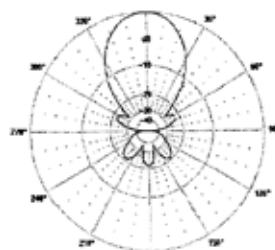
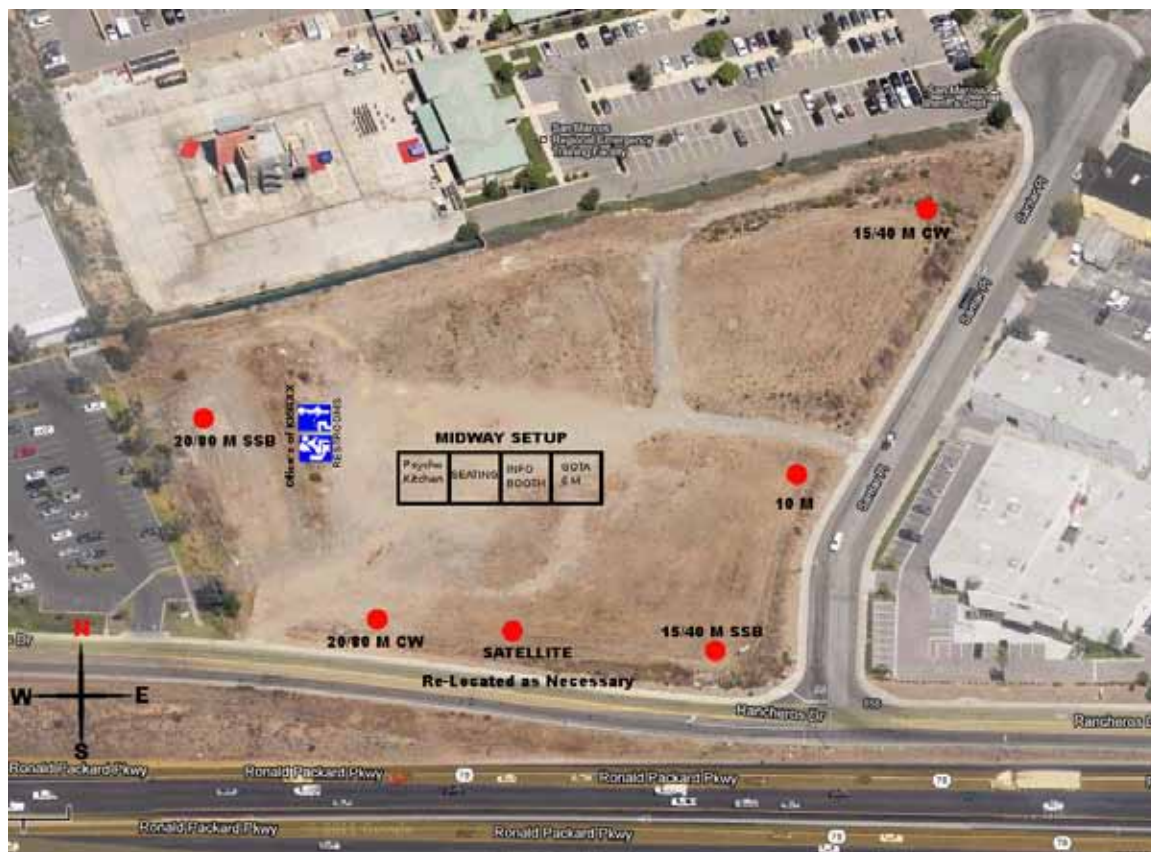
For Sale

The Alinco DJ-580 illuminated keypad button does not work.....No Backlighting of keypad, Transmit coverage is: 130-173.995 and 400-519.0995 with Mars/Cap Mods completed, Radio has no worn pads and all LCD display functions work as new, case looks like new, this radio comes with (1) EBP-20X 7.2 volt 1650Mah battery used only a few time before put away, (1) EBP-20N 7.2v 700Mah pack (not sure how long it will last) (2) EDH-11 dry cell pack (1) Yaesu dual band antenna and (2) Alinco EDC-24 Slow chargers and (1) DJ-580. I have checked this radio on simplex and our local repeater and it sounds fine, you would be hard pressed to find a radio in better condition than this one. excellent condition, As with all electronics this radio is sold AS IS, It will not be DOA, asking \$100 OBO, James 760-722-2797.

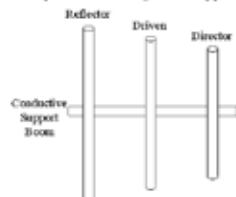
For Sale

Kenwood Communications Receiver, Model R-599 with factory installed 2m converter. \$100.00
Pete, K6JQE 858-755-4838. Solana Beach

Field Day 21-23 June 2013



Simple 3-element Yagi With Support Boom



FIELD DAY



W6NWX

WHISKEY SIX NOTHING WORKS GOOD

FD SCHEDULE

June 21
-11AM Setup at site

June 22
-7AM Breakfast
-8AM Crank up towers
-9AM Final Setup Test
-11AM CQ Field Day...
-1PM Radio Merit Badge
-2PM Lunch
-6PM Dinner
-8PM NTS Message NET

June 23
-7AM Final Breakfast
-10:59:59 Final Contact
-11:30 Tear-down

PALOMAR AMATEUR RADIO CLUB

FIELD DAY 2013

21 - 23 JUNE

594 Rancheros Drive, San Marcos
(Adjacent to San Marcos Sheriff's Station)

OPERATING 7 STATIONS

- 10M
- 20/80M CW
- 20/80M SSB
- 15/40 M CW
- 15/40 M SSB ALL YL STATION
- GOTA STATION
- MULTIPLE BANDS INCL 6 METERS
- SATELLITE

DO NOT HAVE TO

- BE A PARC CLUB MEMBER
- BE LICENSED
- KNOW CODE



FD PICNIC

Saturday 2pm
Psycho Kitchen

Category:
5A

MORE DETAILS
ON CLUB WEBSITE
WWW.PALOMARARC.ORG

ALL ARE WELCOME INCLUDING GENERAL PUBLIC!
COME OPERATE, LEARN MORE ABOUT HAM RADIO!
VISIT SAN DIEGO COUNTY'S GREATEST AMATEUR RADIO CLUB!
COME JOIN THE FUN!

A Mobile Portable Station

by Pete KH6GK

We've been traveling around in our RV for the past several years and I have enjoyed making contacts after we've arrived and set up camp. Since this is a travel trailer, I can't operate on the move, but that's OK, I have enough to do watching traffic and controlling the rig. In the October 1980 issue of QST, W8UCG in his article, "A Deluxe RV 5-Band Antenna," describes his mobile portable setup focusing mainly on his antenna which is mounted to his Airstream rear frame. I have taken a somewhat different approach based on the reasoning that since I don't operate on the move, I can set up the antenna after I arrive. Moreover, I can also chose the type of antenna based on the RV site parameters and geography. My first step was to devise a convenient way to connect the antenna to the rig, an ICOM IC-706MkII with AT-180 tuner. I decided to use the existing TV cable outlet as the external antenna interface location.

The modified cable TV box now contains in addition to the TV cable connection, a HF and VHF coaxial connection and two PowerPole connectors providing 13.6V to operate antenna accessories. Inside the coach, the coax cables run from the back side of the cable box at the bottom of the wardrobe under the floor of the coach through an existing cable conduit and to the rig which is bolted to the bottom of the dinette underseat storage compartment. A West Mountain Radio RIGrunner is mounted to the back of

the undersea compartment and provides 13.6V DC to the radio/tuner and PowerPole connectors in the cable box. A 10 GA PowerWerx cable connects the RIGrunner to a 20A fused power panel connection of the coach and all components are grounded to the coach frame. Using the remote head feature of the IC-706MKII and an MFJ-361 Presentation Stand, I am able to easily move the control head and microphone from its undersea storage location to the operating position on the dinette table.

Antennas that I have used so far include a BuddiPole, a High Sierra HS1800PRO, a homebrew 20M vertical, and a homebrew 20M sloping dipole. The vertical and sloping dipole are mounted on a 22 foot fiberglass flagpole and are quite inconspicuous to the casual observer. The BuddiPole allows for a number of different configurations and elicits questions from passersby.

Best contact to date is from Borrego Springs on the BuddiPole: Sable Island on 10M.

If you are contemplating a similar installation on your RV and have questions, please contact me at pmiverson@att.net. 73's, Pete

See photos page 8-9.

HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

Regulations? We don't need no regulations!

Au contraire my friend. Indeed we do!

I was thinking about this the other day, listening to a couple of ham friends chatting.

We operate under the protection of US Title 47, Part 97, FCC rules. Those rules infer what we can do on our bands, and specifically tell us what we can't do. And of course, they serve as our "protector". By specifying our band privileges it sets aside the spectrum in which we enjoy our hobby.

We are fortunate that, as time passes, and as technology changes, all we need do is communicate with our elected representatives to ensure they tell the FCC not to change our spectrum allocation, and make sure we are given our rights as ham. Not many countries have our privileged system of governance where the people rule themselves, and by merely making their interests known, have such sway in the affairs of governance....

By now you should be wondering what planet I am writing from, or what recreational smoke is wafting around my hamshack! Has he paid attention to politics lately? You are asking yourselves. It is the rule of the BIG BUCK\$\$ that sways any action in Washington.

As a ham, have you noticed how the commercial interests salivate over our spectrum? That juicy 220 MHz band that no one uses? That hardly ever used 70cm sliver of spectrum? Have you observed how easily hams get permits for erecting antennas on their private property (land rights, you know?)? Oh, and of course, you know that our enlightened representatives fully understand that our using a microphone to talk while driving is totally different from talking on a cell phone while driving. Yes!

Well, if you believe any of the thoughts in the previous paragraph, I am certain you are the one affected by wafting recreational smoke!

The assault on all our cherished traditions is relentless, from commercial establishments through special interests. The commercial world would love to take those spectrum slivers, and with all the modern digital communication protocols turn them into 24/7 commercial money-making use. The continued onslaught to our antenna permitting process is ceaseless. And, face it, few individual hams have the BIG BUCK\$\$\$ to sway Washington.

The only political protection we have, and the only way hams can influence any political representative is with organization and BIG BUCK\$\$.

"So who you gonna call"? Certainly not the DX pile-up busters. !!

So what?

Those two ham friends chatting the other day were pontificating on how useless it was for them to be ARRL members. Their line of thought was that for a small membership fee, they "...get nothing in return..."

I won't elaborate on the receipt of QST as a membership benefit. Both in print, and in electronic media at no extra charge!

But I will elaborate on what the ARRL does for our privileges "behind the scenes". You know, eating rubber chicken while lobbying those Washington guys who only respond to organized BIG BUCK\$\$\$

The ARRL Board of Directors has announced the following 2013 ARRL agenda :

- Seek legislation instructing the FCC to extend the requirement for "reasonable accommodation of Amateur Radio station antennas – a requirement that now applies to state and local regulations – to all forms of land use regulation.
- To oppose legislation that would lead to the reallocation of amateur spectrum or to sharing arrangements that reduce the utility of existing allocations.

continued on page 6

continued from page 5

- To seek recognition of the unique resources, capabilities and expertise of the Amateur Radio service in any legislation that addresses communications issues that are related to disasters, emergencies or homeland security.
- To oppose “distracted driving” legislation that does not clearly exempt two-way mobile radio transmitters or receivers used by FCC licensed radio amateurs.
- To support legislation authorizing FCC Commissioners to appoint an electrical engineer or computer scientist as an additional member of their staffs to ensure that Commissioners have adequate

access to technical expertise when making decisions.

In addition to the Washington presence implied above, for a fee of \$36.00 per year, ARRL members get a host of discounts on Amateur Radio equipment insurance, discounts from preferred stores (Best Buy is one of them), etc.

So I suggest to my two chatting ham friends, and to anyone not already an ARRL member, that ARRL membership is a pretty good deal.

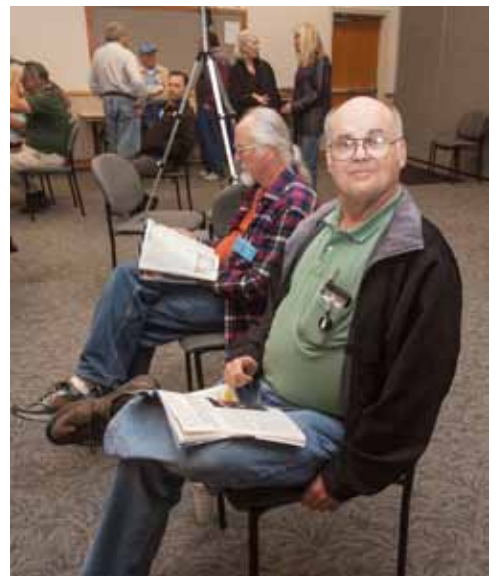
As I like to say, all professional :=)) ham radio operators should be ARRL members!

73 de NN3V



Congratulations to Charlie NN3V for First Place!

March Meeting Photos



Photos by Paul KB5MU.



CONGRATULATIONS!

A Mobile Portable Station by Pete KH6GK

See article on Page 4

Do you have a mobile installation? Do you want to have a mobile installation, and need some motivation?

We're looking for a few good mobile installations - whether they're completed, on the drawing board, or half-way done and tripping you and your passengers every time you get in and out of the vehicle - to be featured in the Scope. We'd love to show your installation.

Tips, narratives, explanations, techniques, problems encountered and solved (or encountered and evaded) are what we're looking for. Send them in!

scope@palomararc.org





February Meeting Photos



IMPULSE Electronics

(760) 747-5277 – (866) 747-5277

www.impulseelectronics.com

**Your Connection for
Emergency Power Solutions**

Power Products

Power Pole Connectors – Power Cables – Tools
AGM Batteries – Red/Black Zip Cord 14 – 8 GA

West Mountain Products

RIGrunner – RIGblaster – Accessories
PWRgates – Computerized Battery Analyzer
Coax Cable – Coax Assemblies – Adapters
Terminals – Coax Connectors – Battery
Chargers – Battery Accessories
Email sales@impulseelectronics.com

Info for May SCOPE

While we certainly appreciate Reinstated members, we believe many “Reinstatements” are due to members not aware that their membership was due.

Since many members now get the News Letter (SCOPE) on the web, they don’t receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member’s calls that are getting close to renewal time. Previously, we listed the memberships that had expired, and some didn’t like that at all!

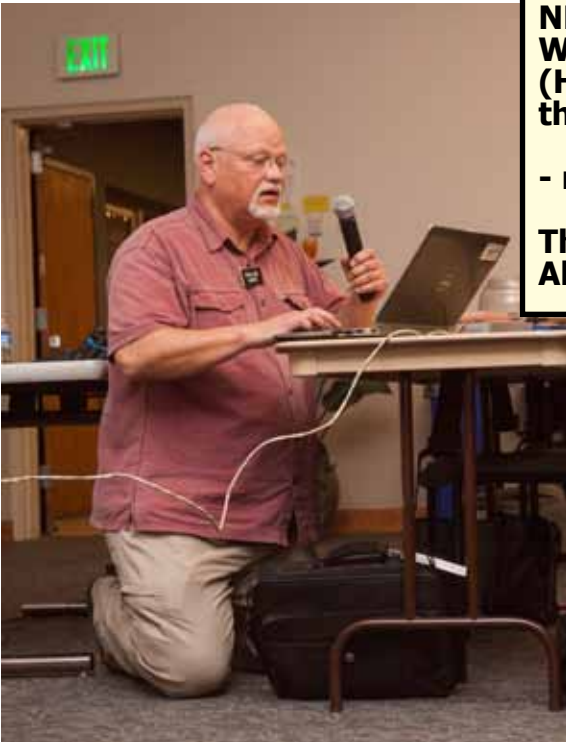
The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership.

W6OWG, KT6UK, KG6UTS, KJ6OSG, KJ6DPE, KJ6GOQ, KJ6HCT, WN6K, K6PKS, NF4JA, KQ6AM, WA6MHZ, W6YXY, KI6DIZ, N7MM, WB6YCQ, and W6GNI.

(Hay – W6GNI is Me!!) (I see some other old timers in the list too!)

- more next month!

**Thank you,
Al W6GNI**



February Meeting Photos by Paul KB5MU.





NiCd Lady Company

Grace Lloyd
N6WPA
grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs
20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/906-6423
951/653-8868
Fax 951/653-5189

Your Complete Battery Source

RF PARTS
COMPANY
From Milliwatts to Kilowatts™

Complete inventory for servicing amateur and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

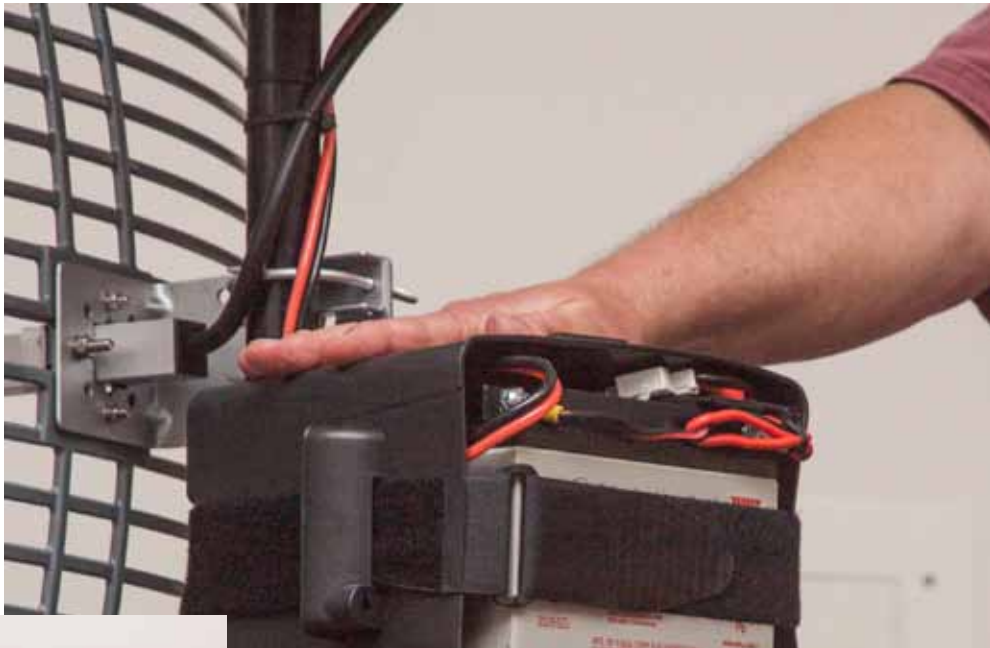
3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com

RF
Since 1967



FINAL SPECIFICATION⁽¹⁰⁾

DESCRIPTION

The Signetics 25000 Series 9C46XN Random Access Write-Only-Memory employs both enhancement and depletion mode P-Channel, N-Channel and Neu⁽¹⁾ channel MOS devices. Although a static device, a single TTL level clock phase is required to drive the on-board multi-port clock generator. Data refresh is accomplished during CB and LH periods⁽¹¹⁾. Quadri-state outputs (when applicable) allow expansion in many directions, depending on organization.

The static memory cells are operated dynamically to yield extremely low power dissipation. All inputs and outputs are directly TL compatible when proper interfacing circuitry is employed.

Device construction is more or less S.O.S.⁽²⁾

FEATURES

- FULLY ENCODED MULTI-PORT ADDRESSING
- WRITE CYCLE TIME 80ns (MAX. TYPICAL)
- WRITE ACCESS TIME⁽³⁾
- POWER DISSIPATION 10μW/BIT TYPICAL
- CELL REFRESH TIME 1ms (MIN. TYPICAL)
- TTL/DTL COMPATIBLE INPUTS⁽⁴⁾
- AVAILABLE OUTPUTS "n"
- CLOCK LINE CAPACITANCE 2pF MAX.⁽⁵⁾
- $V^{CC} = +10V$
- $V^{DD} = 0V \pm 2\%$
- $V^{FF} = 6.3V^{ac(6)}$

APPLICATIONS

DON'T CARE BUFFER STORES
LEAST SIGNIFICANT CONTROL MEMORIES
POST MORTEM MEMORIES (WEAPON SYSTEMS)
ARTIFICIAL MEMORY SYSTEMS
NON-INTELLIGENT MICRO CONTROLLERS
FIRST-IN NEVER-OUT (FINO) ASYNCHRONOUS
BUFFERS.
OVERFLOW REGISTER (BIT BUCKET)

PROCESS TECHNOLOGY

The use of Signetics unique SEX⁽⁷⁾ process yields V_{th} (var.) and allows the design⁽⁸⁾ and production⁽⁹⁾ of higher performance MOS circuits than can be obtained by competitor's techniques.

BIPOLAR COMPATIBILITY

All data are clock input pins applicable output will interface directly or nearly directly with bipolar circuits of suitable characteristics in any event use 1 amp fuses in all power supply and data lines.

INPUT PROTECTION

All terminals are provided with slip-on latex protectors for the prevention of Voltage Destruction. (PILL packaged devices do not require protection.)

SILICON PACKAGING

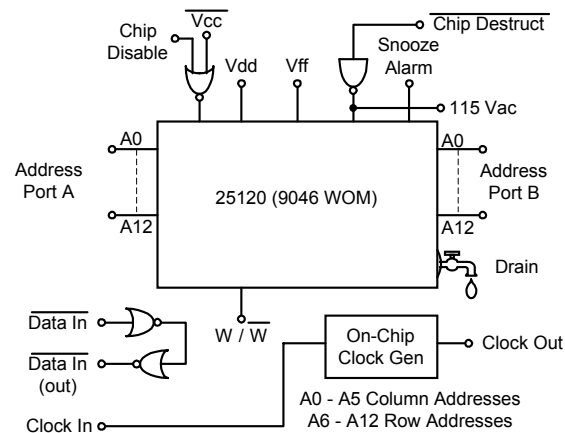
Low cost silicon DIP packaging is implemented and reliability is assured by the use of a non-hermetic sealing technique which prevents the entrapment of harmful ions, but which allows the free exchange of friendly ions.

SPECIAL FEATURES

Because of the employment of the Signetics' proprietary Sanderson-Rabbet Channel the 25120 will provide 50% higher speed than you will obtain.

COOLING

The 25120 is easily cooled by the employment of a six foot fan 1/3" from the package. If the device fails you have exceeded the ratings. In such cases, more air is recommended.



PART IDENTIFICATION

TYPE	"n"	TEMP. RANGE	PACKAGE
25120	0	0 to -70°C	Whatever's Right

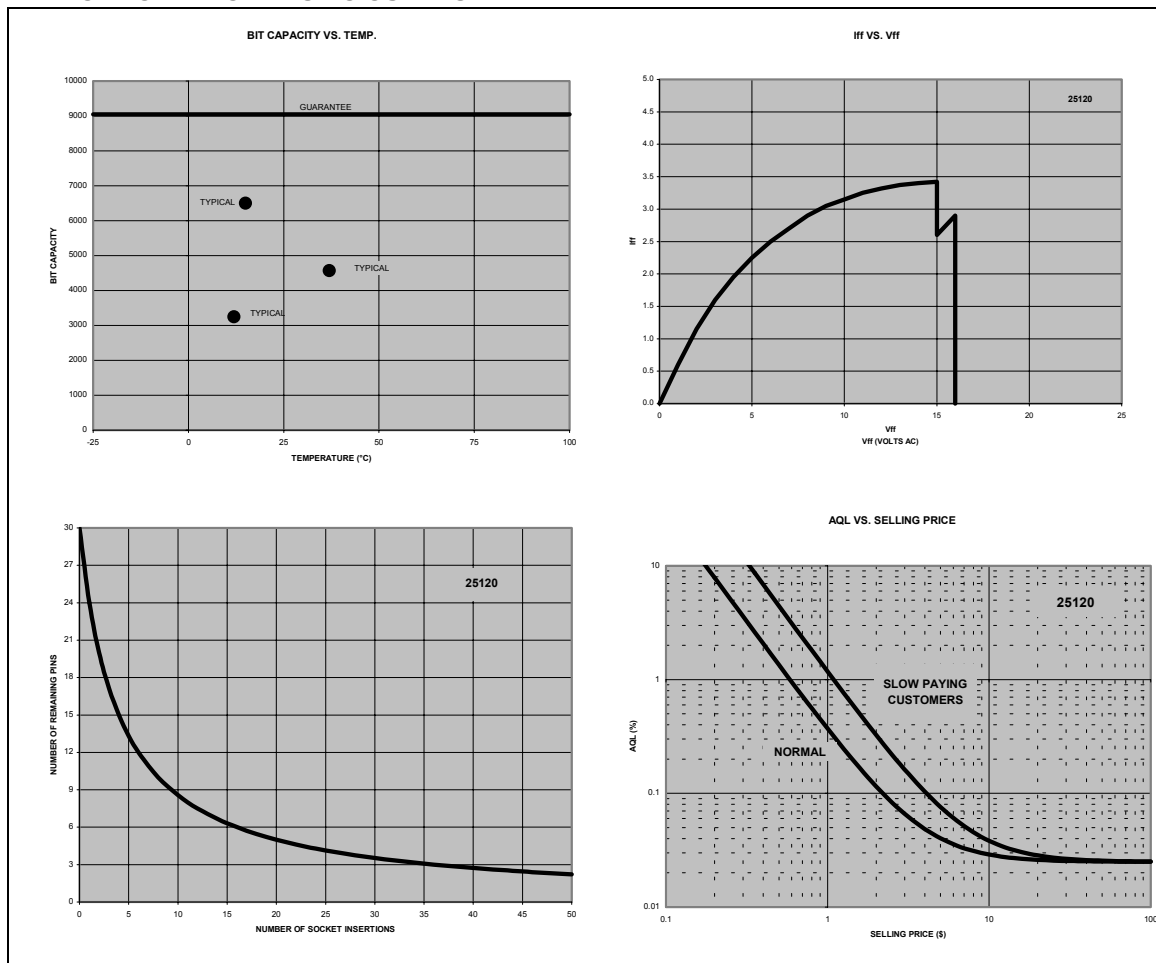
1. "Neu" channel 16V CMOS enhances or depletes regardless of gate polarity, either simultaneously or randomly. Sometimes not at all.
2. "S.O.S" copyrighted U.S. Army Commissary, 1940.
3. Not applicable.
4. You can somehow drive these inputs from TTL, the method is obvious.
5. Measure at 1MHz, 25mV, 1.8pF in series.
6. For filaments, what else!
7. You have a dirty mind. S.E.X. is a Signetics Extra Secret process. "One Shovel Full to One Shovel Full", patented by Yagura, Kashkooli, Converse and AL, Circa 1921.
8. J. Kana calls it design (we humor him).
9. See "Modern Production Techniques" by T. Arrieta (not yet written).
10. Final until we got a look at some actual parts.
11. Coffee breaks and lunch hours.
12. Due credit to EIMAC for inspiration.

Spotlight on Memory Devices

A lot of attention has been paid lately to the SDR (software-defined radio) movement in amateur radio. Devices such as the Signetics Memory featured here are starting to become more and more important on the SDR homebrew scene.

SIGNETICS • 25120 FULLY ENCODED, 9046 X N, RANDOM ACCESS WRITE ONLY MEMORY

TYPICAL CHARACTERISTIC CURVES



signetics

811 E. ARQUES AVENUE • SYNNEYVALE CALIFORNIA • 94086
TEL: (408) 739-7700 • TWX: (910) 339-9283 • A subsidiary of CORNING GLASS WORKS
D304 MOS-005-39 Copyright 1972 - printed in U.S.A.

SCOPE
P.O. Box 73
Vista, CA 92085-0073

Return service requested

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 1 May 2013, Palomar Amateur Radio Club presents a program about the Red Cross.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



PARC needs volunteer for appointment as Vice-President.

Palomar Amateur Radio Club is currently looking for a volunteer for appointment to the position of Vice-President for the remainder of the current year. Ron, our recent Vice-President, advised the Board at the May Board Meeting that he will no longer be able to continue in this position. We all thank Ron for his time and efforts to benefit our Club. If you are willing to assist and benefit the Club, please let a Board member know. You can suggest another person as well. (We won't tell.)

Field Day Thanks

My thanks to all the participants in this year's series of workparties. Through your efforts, the Club is well prepared for Field Day. The main towers are nicely preserved, and those who were able to join us yesterday saw that the last tower really operates "sweetly"!

With all the station boxes inventoried and checked out, this represents one of the earliest completions of FD gear maintenance. And now the Club can take a look at other equipment maintenance. For the new licensees who helped, I hope you found this a valuable introduction to some of the many aspects of ham radio that you otherwise would have been wondering about.

There are many other things for you to see on Club workparties. I encourage you to take an opportunity and join one of the Club's repeater site workparties up at Palomar Mountain. It is a beautiful setting up at Palomar, and you will be really amazed by the technology and lay-out of the repeater site. Conrad KG6JEI, is the repeater site technical lead, and he announces the workparties at regular intervals.

To all who participated, on behalf of PARC, many thanks and I look forward to seeing you at Field Day.

73 de NN3V Charlie

Save the Date

Club Meeting

5 June 2013

The 7:30pm program is about Field Day.

Board Meeting

12 June 2013

Palomar Amateur Radio Club board meeting at 7:30pm at W6GNI QTH.

Field Day

21-23 June

Contact Greg KI6RXX or Charlie NN3V to volunteer.

Fold & Staple for May SCOPE 2013
Al W6GNI And Kathy
Sonny WA5ACE Jo KB6NMK
Art KB6YHZ And Janet

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors. Insertion loss is .9 dBa per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

For Sale

Swan Mark II linear amplifier. Clean, working well \$650.

Heathkit HP23B Power Supply with 11-pin cable. Looks and works very well. \$70.
Ron K2RP@arrl.net (760) 436-8109

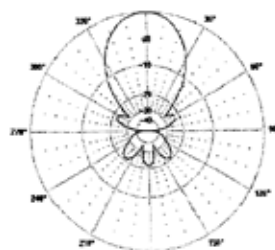
For Sale

The Alinco DJ-580 illuminated keypad button does not work.....No Backlighting of keypad, Transmit coverage is: 130-173.995 and 400-519.0995 with Mars/Cap Mods completed, Radio has no worn pads and all LCD display functions work as new, case looks like new, this radio comes with (1) EBP-20X 7.2 volt 1650Mah battery used only a few time before put away, (1) EBP-20N 7.2v 700Mah pack (not sure how long it will last) (2) EDH-11 dry cell pack (1) Yaesu dual band antenna and (2) Alinco EDC-24 Slow chargers and (1) DJ-580. I have checked this radio on simplex and our local repeater and it sounds fine, you would be hard pressed to find a radio in better condition than this one. excellent condition, As with all electronics this radio is sold AS IS, It will not be DOA, asking \$100 OBO, James 760-722-2797.

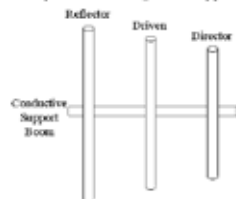
For Sale

Kenwood Communications Receiver, Model R-599 with factory installed 2m converter. \$100.00
Pete, K6JQE 858-755-4838. Solana Beach

Field Day 21-23 June 2013



Simple 3-element Yagi With Support Boom



W6NWX

WHISKEY SIX NOTHING WORKS GOOD

FD SCHEDULE

June 21
-11AM Setup at site

June 22
-7AM Breakfast
-8AM Crank up towers
-9AM Final Setup Test
-11AM CQ Field Day...
-1230PM Lunch
-1PM Radio Merit Badge
-3pm Testing (Tentative)
-6PM Dinner
-8PM NTS Message NET

June 23
-7AM Final Breakfast
-10:59:59 Final Contact
-11:30 Tear-down

PALOMAR AMATEUR RADIO CLUB

FIELD DAY 2013

21 - 23 JUNE

594 Rancheros Drive, San Marcos
(Adjacent to San Marcos Sheriff's Station)

OPERATING 7 STATIONS

- 10M
- 20/80M CW
- 20/80M SSB
- 15/40 M CW
- 15/40 M SSB ALL YL STATION
- GOTA STATION
- MULTIPLE BANDS INCL 6 METERS
- SATELLITE

DO NOT HAVE TO

- BE A PARC CLUB MEMBER
(Club Membership is encouraged)
- BE LICENSED
- KNOW CODE



FD PICNIC DINNER

Saturday 6pm
Psycho Kitchen

Category:
5A

MORE DETAILS
ON CLUB WEBSITE
WWW.PALOMARARC.ORG

ALL ARE WELCOME INCLUDING GENERAL PUBLIC!
COME OPERATE, LEARN MORE ABOUT HAM RADIO!
VISIT SAN DIEGO COUNTYS GREATEST AMATEUR RADIO CLUB!
COME JOIN THE FUN!

FIELD DAY



Insurance

There has been lively and interesting discussions concerning insurance for Club property. Many moons ago, Palomar Amateur Radio Club held insurance from a national agency. An article from the November 2001 SCOPE follows:

Your editor has been aware since at least 1984 that the club has maintained liability and property insurance and he assumes that the club had this insurance before he became active in club affairs. (our club has affairs?) Almost always, when we have meetings or Field Day gatherings, the owner of the property requires that we show them liability insurance of at least one million dollars or they won't let us in the door (gate).

Our present insurance is being cancelled as of November 1 st by our long term insurer because they don't make enough money off of us despite our paying them over \$1,000 each year for the one million liability and the \$50,000 equipment loss insurance.

At the last Board meeting the 5 Board members present decided to go for the ARRL liability policy at ~\$410 per year and to "self insure" the club for its equipment by putting \$600 (\$1,000-400) into a special "insurance" fund to take care of any losses we might have. It is believed that the club has never filed for a loss payment. The past insurance did not insure the tower or any of the antennas on the tower. It did not insure the trailers, cargo container, patches, and packet at a Vista location.

PARC Bylaws require that the Club maintain Fire and Theft insurance, in an amount that the Board determines.

It does not require that PARC buy insurance from the commercial market. But it does require us to maintain some type of insurance.

As part of the Club procedures, Officers are elected to act in the best interest of the Club and it's members. Prior Boards have found this to be the best use of assets, based on losses, needs, and returns. Our loss expectation is very small. Most radio theives are looking for the newest, greatest, and latest product to compete/monitor the newest radios. We don't have those. The next concern was copper thieves. With all the commercial racks around (and easily seen due to them showing above treelines,) They would be higher on the sourcing list.

The only loss that I know of was the original off the shelf repeater used by WR6AII. That was not claimed, but was replaced by the membership. We feel our biggest concern is fire on the mountain, and the local fire concerns are keeping that in check with a yearly assesment of growth, death, and underbrush. When they ask us to comply, we do.

Dennis KD6TUJ

HAM RADIO

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

OUTLET

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

Museum Ships Weekend

The Brazos Valley Amateur Radio Club, KK5W is participating in this year's Museum Ships Weekend. June 1-2, 2013. Our call sign, KK5W will be credited as a contact with both WW II Submarine USS Cavalla and Destroyer Escort USS Stewart. Visit our web page for more information,

www.bvarcmswe.org.

We will be operating from Seawolf Park in Galveston, Texas, NA-143.

Frequencies as follows:

SSB
7.260 MHz
14.260 MHz
21.360 MHz
28.360 MHz

CW
7.039 MHz
14.039 MHz
21.039 KHz
28.039 KHz

Amateur radio operators in the Galveston - Houston area are cordially invited to participate.

You can sign up on the web page if you would like to operate KK5W during the event at Seawolf Park.

KK5W will also host two VHF Nets for Houston-Galveston amateurs to contact the local museum ships using the WA5CYI repeater 146.94 (-) PL 167.9 on Saturday and Sunday from 11AM - 1 PM Local time. We are anticipating the USS Texas (NA5DV), Elissa (N5E), and the Grandcamp/High Flyer Memorial (AC0TX) will be on the net.

Operation on OSCAR satellites is planned for daytime passes on Saturday, June 1.

A balloon launch is scheduled for Saturday morning.

For the second year, KK5W is sponsoring the Texas Navy Award.

This year's Texas Navy Fleet is expanded to include:

USS Cavalla and USS Stewart – KK5W
USS Texas – NA5DV
Tall Ship Elissa – N5E
USS Lexington – W5LEX
SS High Flyer and SS Grandcamp Memorial – AC0TX
National Museum of the Pacific War – N5P

For KK5W and AC0TX, one contact counts for both ships.

Provide evidence of two way communication (log extract) with at least four of the call signs during MSWE 2013 to earn the 2013 Texas Navy Certificate.

Work all six to earn the coveted "Clean Sweep" endorsement. Visit our webpage,

www.bvarcmswe.org

for information on how to claim the certificate.

73,
Ron, K5HM
Event Coordinator
k5hm.ron@gmail.com
www.qrz.com/db/k5hm

Participation points are earned by members supporting Palomar Amateur Radio Club. Support comes through attendance at meetings, work parties, operating events, and community support. These points can be redeemed for tickets at the annual picnic held in August. Points can accumulate up to a maximum of 20 per individual. Historically there are several gift certificates available to win. The real reward is your participation in ham radio. (But maybe a small bribe (*editorial note: to the EDITOR!*) will help!)

Field Day and Scouting

Dear Mr. & Mrs. Ham Ambassador,

Field Day is bigger than any one person. FD sites all across America bristle with communicators in action. It is the ultimate arena for introducing Ham Radio to Boy Scouts and their leaders. Just think, if you were a scout learning about Ham radio, what would be the most motivating example? ... to witness the full spectrum of Ham operations.

Our mission: to be ambassadors for Ham Radio.

This is the 1st time that PARC will be giving a Radio Merit Badge class during FD. We need to "Be prepared" to answer questions regarding the Radio Merit Badge requirements, and Ham Radio emergency operations.

Here are the Radio MB requirements:

1. Explain what radio is:
 - a. Discuss differences between broadcast and hobby radio
 - b. Discuss differences between broadcast and 2-way communication
 - c. Discuss how broadcast and amateur radio call signs are used
 - d. Discuss how the phonetic alphabet helps communicate clearly
2. Do the following:
 - a. Sketch a diagram showing how radio waves travel locally and around the world. Explain how broadcast stations WWV & WWVH help determine what you will hear on shortwave radio.
 - b. Explain the difference between a DX and a local station. Discuss what the FCC does and how it differs from the ITU.
3. Do the following:
 - a. Draw a chart of the electromagnetic spectrum from 100 kHz to 1,000 MHz
 - b. Label the MF, HF, VHF, UHF and microwave portions on your chart.
 - c. Locate on your chart 8 radio services, i.e. AM & FM broadcast, CB, TV, amateur radio (at least 4 bands) and public service (police & fire.)
4. Explain how radio waves carry information, including transceiver, transmitter, receiver, amplifier and antenna.
5. Do the following:
 - a. Explain differences between a block and a schematic diagram.
 - b. Draw a block diagram for a radio station showing: transceiver, amplifier, mike, antenna and feed line.
 - c. Explain differences between an open, a closed and a short circuit.
 - d. Draw 8 schematic symbols. Explain what 3 of these do. Find 3 component parts that match the 3 symbols.
6. Explain the safety precautions for working with radio gear, including the concept of grounding for direct current circuits, power outlets and antenna systems.
7. Visit a radio installation. Discuss what type of equipment you saw, how it was used, and what types of licenses were required to operate & maintain it, and the purpose of the station.
8. Find out 3 careers in radio. Pick one and find the education, training and experience required. Explain why you might be interested.
9. **AMATEUR RADIO**
 - a. Tell why the FCC has an Amateur Radio Service. Describe activities that the amateur radio operators can do on the air once they earn their license.
 - b. Using proper call signs, Q signals and abbreviations, carry on a 10-minute radio contact using voice, code or digital mode. Properly log the contact and record the signal report.
 - c. Explain 5 Q signals or amateur radio terms you hear.
 - d. Explain some of the differences between the Technician, General and Extra Class license requirements and privileges. Who administers the radio exams?
 - e. Explain how you would make an emergency call on voice or Morse code.
 - f. Explain the differences between handheld transceivers and home "base" transceivers. Explain the uses of mobile amateur radio transceivers and amateur radio repeaters.

WOW, if you look at the MB vs. the Technician class license requirements, you will see that they come very close. Talk about a great opportunity!

When – 1300 – 1700 on Saturday, 22 June. We've allotted 4 hours to the MB class. Not much time when you consider the challenge. This is a great opportunity to teach boys and their leaders a new level of individual preparedness. So every Ham should put a smile on their face and be prepared as a good ambassador.

Yours in Scouting, Fred Atchley, AE6IC

Field Day Safety Policy

We now have the following safety policy set in place for Field Day 2013.

Everyone who participates in work parties should be prepared for the work to be done.

Safety items are personal responsibility. Safety is everyone's responsibility. The work party leader will discuss the safety needs for the projects to be done. The leader will appoint a safety supervisor as necessary.

The leader will conduct work with the Safety supervisor watching for safety.

With the above safety policy in mind, one of the activities we will partake in during setup of and tear-down of Field Day is the raising and lowering of the towers. That is, taking them from the point of laying on the ground to standing vertical and vice versa. As we have learned, this is a time when we need to be most prepared and alert. Those who participate in this activity are requested to bring a hard hat to protect themselves from the possibility of falling objects from the towers while raising and lowering them. Hard hats are available from your local Home Improvement Store for as low as 7 dollars. It is also recommended that good shoes and a pair of working gloves be worn as well. As we will be working in the sun, a hat and sunscreen is also advisable along with water.

Although these items may not be a complete list of what you might need, they are meant to set the tone of how important safety is throughout the event.

Look forward to a fun, exciting and safe Field Day.

Greg Gibbs KI6RXX

Meeting Minutes

Palomar Amateur Radio Club
Board of Directors Meeting
April 10, 2013

The meeting was called to order by President Dennis Baca KD6TUJ at 7:47 pm at the home of Ron Pollack K2RP. In attendance were:

President: Dennis Baca, KD6TUJ
Vice President: Ron Pollack, K2RP
Treasurer: Teri, W6TRB
Secretary: Jim Cooper, NE6O
Director #1: Don Johnson, WD6FWE
Director #2: Rich Lippucci, NI6H
Repeater: Conrad Lara, KG6JEI
Membership: Al Donlevy, W6GNI

Treasurer's Report

- Teri W6TRB states Scope printing going up. Don WD6FWE & Dennis KD6TUJ suggest encouraging on-line distribution to help keep printing costs under control. Announcing on the web-site that Scope is available. It is the same as the printed version, except it is in color.
- Conrad KG6JEI asks about phone. Teri W6TRB says it is for 2 months.
- Discussion about changing membership dues whether they get an on-line or mail. If we send Scope out of county it costs extra.
- We have liability insurance for non-members. Ron K2RP will check to see if we have insurance through the ARRL.
- Discussion about the benefits of self-insurance versus ARRL insurance.
- Moved by Don WD6FWE to accept report. Seconded by Rich NI6H. Motion passed unanimously.
- Questions about the value of assets that will be insured, antennas, towers, property, etc. Need to determine how much property we have. Discussion about what equipment we have and what sorts of liability we have.
- Motion by Ron K2RP to get \$15K of ARRL equipment insurance for equipment on the hill.

Secretary's Report 38:57 51:45

- Jim NE6O passed out the February and March minutes for review.
- Moved by Don WD6FWE to accept the minutes for both months as corrected. Seconded by Teri W6TRB. Motion passed with one abstention.

General Meeting

- Rich NI6H states that the May meeting will be Red Cross Go-Kits by Jack AK6JN and Bob KG6RGI with a live WinLink demonstration.

continued page 12

Operating Day!

April 28, 2013 started a little earlier than some of us planned. A group of Palomar members and others met up at Fry's Electronics in San Marcos at 8:00 AM. (yawn) Operating Day was here again. Another chance to show the public how Amateur Radio supports their community. The joy of having fun on the radio between needs of public benefit is always worth the time.

Tom KG6RCW sent and recieved permission for our use of the parking lot in front of a high volume retail location fronting a major highway. Conrad picked up the trailer to practice trailer towing and backing up. Harry W6YOO brought out HF QRP. PAPA/D-STAR demonstrated digital on vhf/uhf. Ted KD6AKT worked packet on 145.050 with a portable packet station. Red Cross has some great protable pre-boxed equipment for vhf/uhf and hf. A new item was video over 2.4GHZ mesh service brought by Ron KG6HSQ. One of Fallbrook's members had filled his truck with radios. The cab was loaded, including the passenger seat area. His wife reminded him that if she can't ride, his radios couldn't ride.

Skywarn/NWS informed visitors about how they can help with Skywarn. We all had a great day with close to 100 acknowledged visitors. We are sill looking to involve other clubs and services to educate the public about AMATEUR RADIO. Great day, plenty of sunshine, gentle breeze, and the best of company.

Dennis





continued from page 7

- Ron K2RP states that June is our traditional Field Day meeting. Question whether the entire meeting will be Field Day. Dennis would like to have a small additional program.
- Ron K2RP states July will be an EME presentation.
- Potential presentation by National Geographic guy who went down in the deepest ocean trench.

Membership

- Al W6GNI states that membership is now 280. He will take applications at operating day and will pass out tri-folds at VE sessions.

501C3

- Ron K2RP got copies of the applications from three other groups.
- We have to amend our articles of incorporation making sure that if club disbands, its assets go to another charitable organization. Fill out stacks of paperwork for application. The examiner for EARS said they could not have any commercial advertising or want ads, but other clubs did not have this restriction
- Ron K2RP will print up sample articles of incorporation and send to the board.
- Rich NI6H asks if there is a better way. Dennis suggests consider setting up a second corporation as a C3. Rinki Pollack stated that she has worked with 501C3 and have separate accounts for operating expenses and for 501C3. Teri W6TRB says insurance rates are better if you are a 501c3, just benefits. Making a second corporation does not add benefit. Rich NI6H wants review by tax attorney. Ron K2RP is satisfied with

things as they are.

- Rich NI6H and Dennis KD6TUJ will look into this. Ron will do what he can to make the articles look right and send it to the board.

SANDARC

- The elections are coming up this month.
- Conrad is up for nomination for Secretary.
- Conrad and Dennis will vote for the best interest of PARC per the board's motion.

- Send a letter to SANDARC and forward to Dennis

The Palomar Amateur Radio Club appoints Dennis Baca KD6TUJ and Conrad Lara KG6JEI as primary delegates. The alternate delegate will be Greg Gibbs KI6RXX. These appointments will continue until such time as they notify that they are unable to continue or superseded by new letter from board. By unanimous motion of the PARC BOD.

Sign Jim secretary date as today's meeting

- Motion by Don WD6FWE. Seconded by Al W6GNI. Motion passes unanimously.

Repeater Report

- The two digital repeaters 145.050 and 146.700 have been reinstalled on the hill. 145.050 is working fine. 146.700 is undergoing testing.
- The 147.075 has been restored to active service on working party.
- Minor site repairs on next work party. Everything is in good condition. Antennas and connections will be checked at next work party.
- Articles have been sent to Scope about work parties.

NiCd Lady Company

Grace Lloyd
N6WPA
grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs
20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/906-6423
951/653-8868
Fax 951/653-5189

Your Complete Battery Source

**RF PARTS**
COMPANY
From Milliwatts to Kilowatts™

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com



Field Day

- Dennis KD6TUJ received today by mail that we have a three day lease on the site by the Sheriff department.
- Greg KI6IRXX has put out another flyer to hand out. Paul KB5MU will put it up on the web-site.
- Have all band captains for all stations. Need confirm equipment for the YL station.
- Billing from Charlie NN6V for \$290.98 for three winches. Teri W6TRB has sent out the check.
- Motion by Don WD6FWE for additional winch, not to exceed \$125. Seconded by Ron K2RP. Motion passed unanimously.
- Motion by Teri W6TRB to amend the number of winches purchased from two to three. Seconded by Ron K2RP. Motion passed unanimously.

OTHER STUFF

- Operation Day will be on Sunday April 28. Setup will start at 8am. Operation will be from 9am to 5pm. The location will be at Frys Electronics San Marcos parking lot nearest to 78. Teri W6TRB will get a quote on signs saying "Amateur Radio Demonstration" and "Public Invited", 3x15 foot or appropriate pre-fabricated length.
- Motion by Don WD6FWE to approve up to \$400 for additional banners to advertise Amateur Radio at future events. Seconded by Conrad KG6JEI. Motion passed with one abstention.
- There is going to be a Scout Fair at Qualcomm Stadium on Saturday April 27. Conrad KG6JEI will take trailer and equipment.
- Interstate Battery in Vista is selling an expanded line of batteries.
- The Boy Scouts have asked for a speaker. Charlie NN3V will talk to them in Poway.

- A request for reimbursement for food brought to the Palomar Christmas Pot-Luck Party was received. It is being responded to.

SAFETY POLICY

- Discussion about safety issues.
- PARC should develop a safety policy.
- Moved by Conrad KG6JEI to defer any further raising of club towers until a safety policy is approved by the board. Seconded by Don WD6FWE. Ron K2RP moved to table the motion. Seconded by Don. Motion passed unanimously and the motion is tabled.
- Motion by Conrad KG6JEI that the club will not raise any towers until directed by the board. Seconded by Don WD6FWE. Motion passed with one abstention.

NEXT BOARD MEETING

- The next board meeting will be at the home of Ron K2RP on Wednesday, May 8 at 7:30pm.

ADJOURNMENT

- Ron moved to adjourn.

Respectfully submitted
Jim Cooper NE6O
PARC Secretary

IMPULSE Electronics

(760) 747-5277 – (866) 747-5277

www.impulseelectronics.com

**Your Connection for
Emergency Power Solutions**

Power Products

Power Pole Connectors – Power Cables – Tools
AGM Batteries – Red/Black Zip Cord 14 – 8 GA

West Mountain Products

RIGrunner – RIGblaster – Accessories
PWRgates – Computerized Battery Analyzer
Coax Cable – Coax Assemblies – Adapters
Terminals – Coax Connectors – Battery
Chargers – Battery Accessories
Email sales@impulseelectronics.com

Info for June SCOPE

While we certainly appreciate Reinstated members, we believe many "Reinstatements" are due to members not aware that their membership was due. Since many members now get the News Letter (SCOPE) on the web, they don't receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed. The Board has recommended that we publish member's calls that are getting close to renewal time. The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership. KK6LJ, KK4JRJ, KG6KLV, KE6VLY, KG6HSQ, AE6IC, KJ6DPR, KJ6JUS, KJ6VXW, KF6LPJ, KU1Y, KD6AKT, KJ6WKB, KF6LWO, N6PD, W6PSK, N6RTI, W6NKB, W6BGK, KI6RXX. - more next month!

Thank you,
Al W6GNI

SCOPE
P.O. Box 73
Vista, CA 92085-0073

Return service requested

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 5 June 2013, Palomar Amateur Radio Club presents a program about Field Day.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

JULY 2013

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



Save the Date

Club Meeting 3 July 2013

The 7:30pm program is about Digital EME (Earth Moon Earth)

Board Meeting 10 July 2013

Palomar Amateur Radio Club board meeting at 7:30pm at W6GNI QTH.

IARU Worlds! 13-14 July

Contact as many other amateurs around the world as possible using 160, 80, 40, 20, 15, 10m

Fold & Staple for JULY SCOPE 2013

Al W6GNI And Kathy
Jo KB6NMK And Toby Ashley
Dave KI6LKP And Janet Meyer

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

I have for sale an MFJ-1786 Super-Hi Q loop antenna for 10-30 mHz. In excellent condition and handles 150 watts. Can be mounted horiz or vert. \$300 and pick-up in Vista.

Marsh 760-536-3220

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors.

Insertion loss is .9 dBa per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

For Sale

Swan Mark II linear amplifier. Clean, working well \$650.

Heathkit HP23B Power Supply with 11-pin cable. Looks and works very well. \$70.
Ron K2RP@arrl.net (760) 436-8109

For Sale

The Alinco DJ-580 illuminated keypad button does not work.....No Backlighting of keypad, Transmit coverage is: 130-173.995 and 400-519.0995 with Mars/Cap Mods completed, Radio has no worn pads and all LCD display functions work as new, case looks like new, this radio comes with (1) EBP-20X 7.2 volt 1650Mah battery used only a few time before put away, (1) EBP-20N 7.2v 700Mah pack (not sure how long it will last) (2) EDH-11 dry cell pack (1) Yaesu dual band antenna and (2) Alinco EDC-24 Slow chargers and (1) DJ-580. I have checked this radio on simplex and our local repeater and it sounds fine, you would be hard pressed to find a radio in better condition than this one. excellent condition, As with all electronics this radio is sold AS IS, It will not be DOA, asking \$100 OBO, James 760-722-2797.

CQ Field Day... CQ Field Day...

I keep calling CQ Field Day but no one is responding! Oh wait, that ended at 11:00 AM this morning.

First of all, I would like to send out a MANY THANKS to all those who helped out in any way with the planning, setup, operating, and tear down of this years Palomar Amateur Radio Club Field Day. Although the points have not been fully collected or scored, I can tell you with great confidence that this years Field Day was a success. Why? Not because we are going to score First Place, although that is surely my hope, but because we had FUN!

The key, going into an event like this, is to start planning early so that when we get to the actual operation of the event, everything runs much more smoothly. This year was no different and we wasted no time getting ready. In January as soon as the new board took office, I was named Field Day chair almost immediately. Charlie NN3V announced that we would hold a series of work parties to do a complete inspection of the clubs various equipment for Field Day. And boy, he sure wasn't kidding! We held at least SIX work parties. During this time we removed, inspected, and replaced all the winch cables on the club towers as well as replacing most of the winches. Every tower was fully raised and lowered to ensure smooth operation and we also tested SWR on the 5 Yagi antennas. In addition, we checked the rotors and control boxes, station boxes, and even rotated some of the tower bases for better transportation.

Field Day is a public demonstration of the emergency response capabilities of Ham Radio and unfortunately that means that every year Mr. Murphy gets a special invitation to our event. This year Dennis KD6TUI, Richard KJ6WUY, John WB6IQS, Danny KK6AOZ, his XYL Kim KK6APA, Conrad KG6JEI, and myself met at 9AM at ToWizard to start loading the equipment for transport to our site in San Marcos. This year, as Dennis had to work through the weekend and left us early so we where mostly on our own. OK, Loading of the equipment went fine. We had more than enough transport room and didn't even use John for transport. It was when we started driving off that we realized that the tires on the trailer of towers were

low. Considering we where at a tow yard, this should have not been a problem. There was plenty of air on site. Of course two of the tires had to become unseated from the rim! #\$\$%^&%\$#... A quick call to Dennis reminded us that we had this same problem two years ago and that a ratcheting tie-strap wrapped tight around the tread would help the tire re-seat as we filled it. 15 minutes later and we were on our way. We made it. We arrived on site around 11:30 AM and began setup only 30 minutes behind schedule. On site we were also met



with our fair share of problems. Although we had done all that planning we where somehow missing 3 rotator pipes, a rotator control cable, and also managed to somehow mix up all the station boxes we had spent so much time organizing. Of course we realized this after we sent them to opposite corners of the field. We spent the whole day walking back and forth between the station spots looking for missing items. Not one single station box was set up correctly and had everything it needed. John WB6IQS was nice enough to run to Home Depot and grab some fence pipe. This solved our rotator pipe issue, however when we installed the pipe on my station first it was too long. We didn't realize this until we raised the tower in the air and the antenna wouldn't fall flat. Not a huge issue, only that we made the mistake on the heaviest tower there. We attempted to use the winch on K6JPE's Jeep to assist in lowering it, but didn't plan on enough people to take the weight in case our winch plan failed. It did! The winch cable slipped loose and the tower was too heavy for the people at the lowering end. It came crashing down and one of the elements broke and had to be repaired. Charlie's station also had a number of issues that had to be solved during raising of Emmett's Tower including a winch failure. Thankfully, many great minds pulled together and all the issues were solved. Saturday morning, Don picked up

the missing rotator cable and we raised the last tower. No other major issues were experienced during the remainder of the event. Murphy must have been too pooped to poop by the end of Friday and gone home.

11:00am Saturday morning and all stations were on air calling CQ Field Day. Although there were some issues with interference between the stations, GOTA was the only station that was majorly affected. Switching bands and antennas to a 40m inverted V lessened the issue. The Boy Scouts started showing up around 12:30pm and Fred AE6IC started organizing the Radio Merit Badge Class. Like their motto, they were well prepared. They had a large tent where they held the class and showed up with 11 canopies and enough chairs to go around. We had 29 Boy Scouts attend the class and they completed their on the air requirement operating QRP on the WARC Bands. Thankfully this caused no interference to the other stations on site. The Young Ma-

rines Group were also in attendance and assisted with various activities during Field Day and got to operate on GOTA.

Around 12:45pm, the Mayor of Oceanside, Jim Wood showed up (photo below). I walked around with him and gave him a tour of all the various stations and



activities. He seemed to thoroughly enjoy his visit with us and was a pleasure to talk with. He even got to say the Pledge of Allegiance with the Boy Scouts and gave them a short speech. Mayor Wood posed for many photos and, during his tour with me, presented me with a Challenge Coin for Oceanside. Challenge coins have long been a part of US military tradition. Legend has it they got their start during

HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

WWI when an allied pilot was shot down behind enemy lines and had to rely on his squadron specific coin to ensure safe passage back to his base. Since then, the coins have found their way into other professions. Today, these highly collectable trinkets are widely distributed by members of law enforcement, fire fighting and paramedics.



During the event on Saturday we also had visits from Joe N6SIX (Chairman of SANDARC, pictured below), Steve Early AD6VI (ARRL Section Manager San Diego), and Arnie Lewin W7BIA (Southern Region ACS Officer Cali-



fornia Emergency Management Agency). SANDARC Testing was held on site with coordination from Harry W6YOO and Jo KB6NMK. Testing was a success. We had two people pass exams. One was the same Pilot who flew over us with a chopper earlier in the day who passed the Technician Exam. The other was an upgrade to General. Food was Delicious as usual and provided by Gina N10W and her Psycho Kitchen. We had Hot Dogs for the Boy Scouts for Lunch and Tri-Tip for Dinner.

Midnight came very quickly and I started my three hour shift on my station. 20m was still wide open. Calling CQ, I had many pileups and worked many different stations. Around 3:00am, Loren AD6ZJ, took over and switched to 80m. 20m was finally dying. Overall my station made 948 total QSOs with 117 on 80m and 831 on 20m.

Tear down on Sunday was a breeze. Everything came apart easily and we left the site around 2:30pm.

I sincerely hope that everyone had a great time this year and thoroughly enjoyed themselves. Along with a greater public exposure, our main goal this year was to have FUN. I think we far surpassed that. For those new Hams, or new Hams to Field Day, it was a great experience to see how all the equipment goes together and what is involved in setting up for an event like this. I hope it sparks your interest to become more involved with the efforts of next years Field Day and with the efforts of the club in general.

I haven't decided weather or not I will volunteer for the position again next year. I am too worn out to decide right now and want to give someone else a chance to take it. This year's efforts have sparked a lot of interest and ambition in me to press on forward with next years efforts however, Ambition is a poor excuse for not having sense enough to be lazy. We'll See.

73 From Greg KI6RXX (photos submitted by Greg KI6RXX)

Participation points are earned by members supporting Palomar Amateur Radio Club. Support comes through attendance at meetings, work parties, operating events, and community support. These points can be redeemed for tickets at the annual picnic held in August. Points can accumulate up to a maximum of 20 per individual. Historically there are several gift certificates available to win. The real reward is your participation in ham radio. (But maybe a small bribe (*editorial note: to the EDITOR!*) will help!)

Field Day Photos from Mike NA6MB







MIKE NA6MB OPERATING, PHOTO FROM KI6RXX

Log Book Of The World

In the past the FCC required maintenance of a log of all QSOs for one year. This requirement has been dropped, yet many hams continue to log their activity. This gives them a record for awards and other personal information such as band conditions, signal reports, etc. Today, most hams use computer logging.

In 2003 the ARRL rolled out Logbook of the World (LoTW). This online system allows hams to claim and verify QSOs with others to qualify for awards such as DXCC and WAS. It also provides an additional online electronic backup of your log. (You do of course regularly backup your log, don't you?) LoTW has several layers of security utilizing digital certificates minimizing the chance of fraudulent claims. The database is free to licensed hams, although they charge a modest fee to claim award credit. As of early 2013, approximately 500 million QSOs have been recorded by more than 57,000 people.

Let's get started by registering. Have your current FCC license available and a method to record four passwords. If you lose or forget your passwords, you will have to start over. Additionally, these passwords are case sensitive.

Go to the LoTW webpage (www.arrl.org/lotw). Download and run the latest version of "TrustedQSL." There are separate Windows and MAC versions, but we'll deal with the Windows version here. The Mac version is similar. This will install two programs: TQSLCert and TQSL.

Run TQSLCert. Answer YES to request digital certificate. Follow the subsequent instructions. You'll be prompted to enter a password (call this PW1) to request a certificate. Use the callsign and address on your license for this first, primary certificate. If you have used other callsigns or portable identifiers, you will set up separate certificates for each of them later. But you need to get your primary certificate set up first. Don't forget to record this password. When prompted to digitally sign the certificate request, chose "unsigned." You'll be prompted to save the certificate request file (labeled as a .tq5 file), then send it to the LoTW team at the ARRL as either a) an email with attachment, or b) uploaded from the LoTW webpage.

The ARRL will send a postcard to your address on file with the FCC with a second password (PW2). With this postcard in hand, sign onto the LoTW website and follow the link in the yellow box. You'll

go to a page to enter PW2. You'll receive an email containing a username (usually your callsign), a third password (PW3), and an attachment with your digital certificate (a .tq6 file). Double click on the .tq6 file and it will be imported into TQSL CERT. No one can have too many passwords, so if you want to save your digital certificate onto a storage medium, a fourth password may be used.

The hard part is over! You're now ready to upload your log data to LoTW.

Different logging programs have more or less automated the uploading process, so at this point you should review the documentation for your specific logging program to see how it handles uploads to LoTW. To be thorough, we will describe the steps required for a logging program which does not automate the process at all. So you may or may not need to go through all these steps, depending on your logging program. Using your logging program, export and save the QSOs to be uploaded in either the ADIF (amateur data interchange format) or Cabrillo formats.

Run the program TQSL. The first time you upload data, you will need to define your station location in TQSL using "Station/Add Location." Once that's done, select "FILE/Sign and Upload ADIF or Cabrillo File." It will ask you select the ADIF or Cabrillo file with your data, and then it will ask you for PW1. (Get this right - use PW1, not PW2, PW3 or PW4). At that point, it will encode and upload the file to the LoTW database.

You can now log into the LoTW User Website (www.arrl.org/lotwuser) utilizing your username and PW3. Most of the time, it handles data very quickly, so your data may already be there. At the end of major contests, it gets hammered, but most of the time it's very fast. After you sign in, you can review a summary of your data at the top of the page. Clicking on "Your Account/Your Activity" you can check your upload for errors or QSLs. The "Your QSLs/Most Recent QSLs" links take you to a listing of matched QSOs.

Applying for award credit using LoTW, such as DXCC or WAS is beyond the scope of this write-up. But once you are comfortable with using LoTW, you should be able to go ahead and set up the award accounts you want. LoTW can speed up the award process by months, maybe years. We encourage you to become a LoTW user.

73 ES GUD DX DE ROB WA3IHV, JOHN NA6L, RICK KØXB

PC Tips from Dick K6KAL

PC Tip No.1:

How To Turn Off Indexing Of Your Local Drive In Windows 7 / Vista /XP

If you are troubled by a slow computer used in your shack, or want to increase the performance of your Windows pc further, then turning off Indexing of your local drive(s) is simple way of boosting the performance. This option is automatically set in Windows XP, Windows Vista, and Windows 7. Indexing is enabled because it helps Windows index your files and folder for faster search.

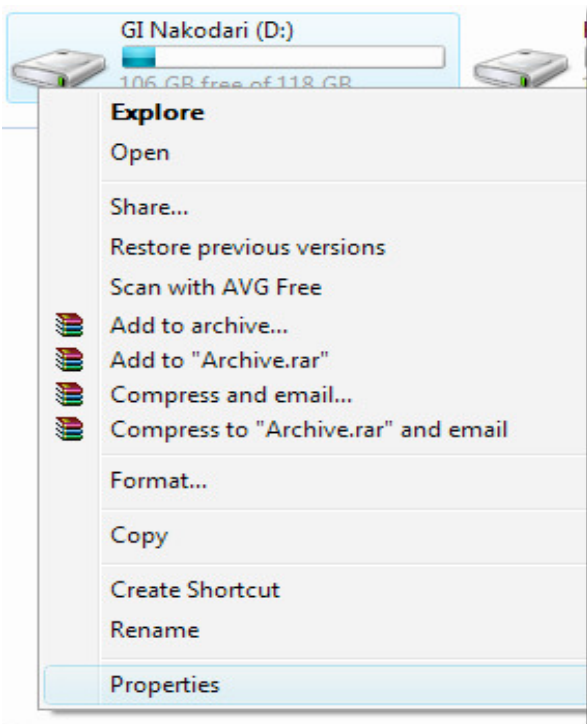
You must ask yourself, how often do I search my hard drive, and would a few extra seconds be an issue. If you answer is seldom or I didn't know I could do that, the steps that follow are for you.

You must also be thinking why turn it off, Microsoft enabled it due to a reason? Well, yes, basically you are right here but sometimes Microsoft choices are not for you, but the masses. Microsoft might have forgot to make their search better and more powerful because they were focused more on releasing Windows on time, or trying to fix that last Blue screen of Death issue.

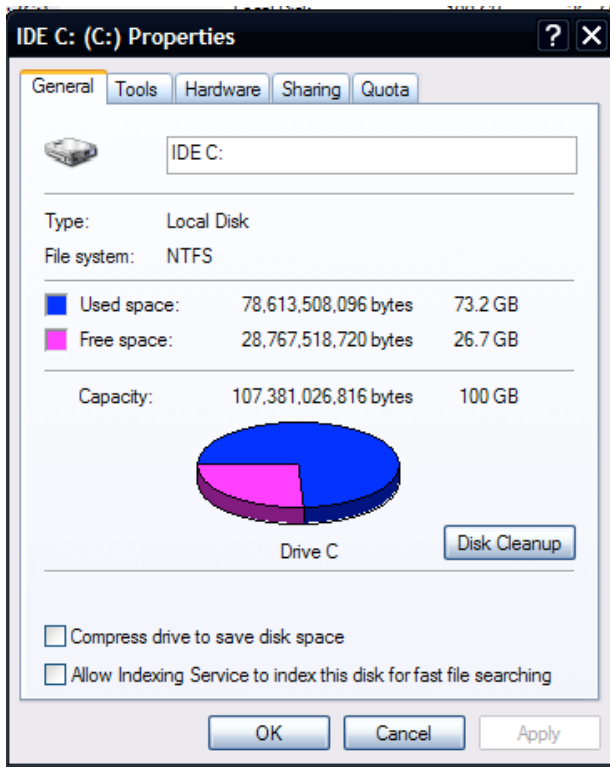
You could use **Google Desktop** or **Windows Search** alternatively which are both faster than the build-in search and of course more powerful, but counter productive. They consume system resources just as Microsoft Indexing does, so be warned.

But that being said let's get down to business.

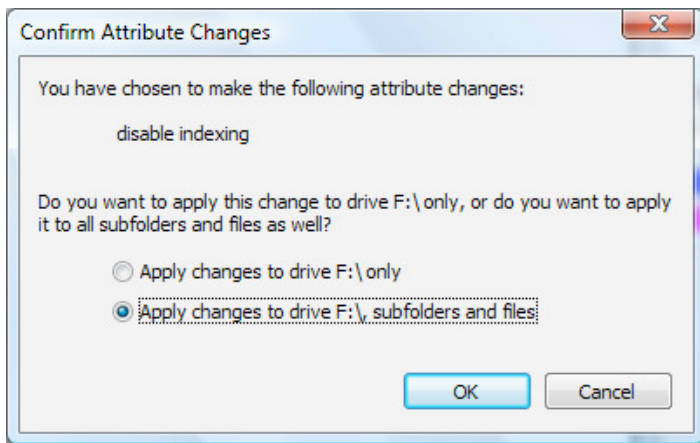
To Turn Off Indexing on your local drive open **My Computer**, right-click any **Local Drive**(C, D, etc) and go to **Properties**.



Now in the General tab you will find a checkbox at the bottom named "**Index this drive for faster searching**", uncheck it as shown in the screenshot below.



It will now ask if you want to turn off indexing only in the root of the drive or you want to turn off indexing for all files and folders? Select "[Apply changes to all files and folders](#)" and click [OK](#) as shown in the screenshot below.



If you select the option saying "Apply changes to root of the drive(C:\, D:\, etc)" then Windows will still index your files and folders, so please do not select this option.

Now sit back while Windows turns off indexing for each and every file, it might take few minutes because every file has a system attribute that tells Windows if it can be indexed or not, so it has to be updated for all files.

Note that if you turn of Indexing where your Windows is installed, lets say drive C, then it will not effect other drives, other drives (D, E, etc). They will still be indexed by Windows. If you want to completely turn off indexing then you will have to do it turn by turn with every drive.

To enable indexing, just follow the above procedures, but instead of unchecking, just check the box where it asks if you want the drive to be indexed.

That should do it.

Indexing is something you can live without, and your PC will run faster without it.



PHOTO OF CONRAD BY KA6KIW



FIRST OF 21 HF CONTACTS ON 40METER, PHOTO BY DON

Info for July SCOPE

While we certainly appreciate Reinstated members, we believe many "Reinstatements" are due to members not aware that their membership was due.

Since many members now get the News Letter (SCOPE) on the web, they don't receive the paper copy that we mark in blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member's calls that are getting close to renewal time. The following members are due for renewal in a month or so, (in some cases a little sooner!) Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership. KK4JRJ, KG6KLV, KE6ZLY, KE6IZ, KJ6JUS, KG6SXU, KJ6VXW, KF7Z-PJ, KD6AKT, KJ6WKB, KF6LWO, N6PD, W6PSK, W6NKB, ZZ9SH, W6BJK, KI6RXX, N1OW, K6BK, AK6AKT, KE6JGJ, K4RB, NE6AA, AK6R. - more next month!

Good news, membership last month is as high as we have had over the last two years!
Thank you,

AI W6GNI
Membership

FIELD DAY SITE AT NIGHT





CONRAD AT GOTA STATION, PHOTO FROM KI6RXX



PARC CLOTHING APPAREL

Last month the club Board of Directors announced the availability of clothing apparel with the club logo, etc.

PARC 2013 FIELD DAY T-SHIRTS

On short order, a few members were able to order PARC Field Day T-shirts for use on FD. They were seen all over the FD site, and as a new product (new manufacturer, process, etc) those who purchased them agreed they were an excellent product, well worth the cost, and VERY NICE.

Many club members who were not at last month's club meeting, so were unable to order the T-shirts, saw them for the first time on FD and asked that the club allow a late order.

So, at this month's meeting, the 2013 FD T-Shirt will be available for ordering on a single special sale basis.

The Field Day T-Shirt (light blue color, with owner's name and call sign in Navy Blue embroidered thread on the right breast, and the PARC logo and labeled PARC FIELD DAY 2013 in Navy Blue on the back of the shirt will be available to order for \$18.63 (tax included) for small, medium, large,

and Xlarge. XXLarge, and XXXLarge add \$2.00 and \$3.00 respectively.

There will be a YL T-Shirt available as well. Same colors, same theme. Price is not yet known but will be known by the club meeting. The price will be very near the same. One of the Club YL's is researching the YL style T-Shirts available in order to standardize. Price will be announced at the club meeting.

GENERIC PARC APPAREL

At this month's meeting, the club will also start selling GENERIC PARC APPAREL.




The T-shirt will have the same T-shirt style and color with the large club logo on the back. Price for small, medium, large, and Xlarge \$13.00. For XXlarge and XXXLarge, add \$2.00 and \$3.00 respectively. Buyers may order their name and call sign ON THE RIGHT breast for an additional \$5.00. YL prices will adjust to the basic T-shirt price (once known).

Shortly PARC will advertise Polo shirts, Ball caps, and windbreaker jackets with options. Stay tuned.

73 de NN3V
Charlie



GOTA VICTOR NUMBER 1, PHOTO BY DON

<p><i>NiCd Lady Company</i></p>	<div style="display: flex; justify-content: space-between;"> <div>  <p>RF PARTS[™] COMPANY <small>From Milliwatts to Kilowatts[™]</small></p> </div> <div> <p>Complete inventory for servicing amateur and commercial communications equipment</p> </div> </div> <p>RF POWER TRANSISTORS — TUBES — POWER MODULES</p> <p>Diodes • Relays • Trimmers • Capacitors • Heatsinks Transformers • Chokes • Combiners • Wattmeters • Books</p> <p>3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS 3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7 4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B</p> <p>Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA</p> <p>760-744-0700</p> <p>www.rfparts.com • orders@rfparts.com</p> <div style="display: flex; justify-content: space-between; align-items: center;">   </div>
<p>Grace Lloyd N6WPA grace@nicdlady.com</p>	
<p>www.nicdlady.com</p>	
<p>Custom Assembly • Rebuilds • Batteries • Lead Acids • Replacement Packs 20585 Camino Del Sol • Unit B Riverside, CA 92508 800/906-6423 951/653-8868 Fax 951/653-5189</p>	
<p>Your Complete Battery Source</p>	



SCOUTS LINED UP FOR LUNCH, PHOTO BY DON

IMPULSE *Electronics .com*

Wouxun Radios and Accessories

Powerpole Connectors

Power Cables

Coax Cable

Coax Connectors

Custom Cable Assemblies

AGM Batteries and Accessories

CTek & UPG Batteries Chargers

Fuses and Holders

Terminals and Splices

Tools

RF Industries Coax Adapters



(866) 747-5277

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 3 July 2013, Palomar Amateur Radio Club presents a program by Gene WB9COY on EME using 2 meters.

This is a description of Earth-Moon-Earth (EME) digital communications using the JT65B mode on the 2 meter band. JT65B can decode signals which are 25-28 db below the noise level, which is about 10 db better than what the human ear could copy (e.g., CW). Using 100 watts and two homebrew yagis, Gene has made over a dozen contacts all over the world.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

The **annual picnic** of Palomar Amateur Radio Club is scheduled for Sunday August 18, 2013 at San Dequito County Park Area 4. Hours are 9:00 AM to Dusk (or so).

This is the time to redeem participation points for tickets for the drawing. A participation point is registered for you each time you sign in for an event or meeting of the Club. A maximum of 20 tickets per individual is allowed.

The club will provide the main course. Guests and members are asked to bring an item from the following list and some drinks. Last names beginning with: A-K: side dish or casserole, L-R: dessert, S-Z: salad, vegetables, or fruit, and Conrad: BROWNIES.

A HF radio with an antenna tuned to 10/15/20 meters will be there to be used for finding obscure contacts. A 40 meter dipole will be brought, but we will need to support it as the trees have moved. What will Ron K2RP bring from the vintage collection?

Two or three fox (T) hunt transmitters will be available for seeking out. We hope to have cards with information about frequency, duration, and message. A drawing can be held for a Kenwood TM 281A 2 meter Mobile radio, preprogrammed with the open San Diego County repeaters. It will require the sale of 70 \$2.00 tickets. As always, bring stories about the elusive contacts you made or how you solved your radio problems.

Most of all, Come out and have a great day with other HAMS.

Dennis KD6TUJ, President PARC

The **next meeting** of the Palomar Amateur Radio Club, meeting the first Wednesday of the Month at Calrsbad Safety Center, 2560 Orion, Carlsbad, California, at 7:30 PM will be: "Propagation 101"

AK6QJ describes how he used a basic understanding of HF propagation and readily available free (!) software applications to plan his Field Day strategy. Featured will be 24 hour animations of worldwide propagation for selected bands. While the material is geared to the new HF operator, more experienced hams might find the animations of interest.

Presented by Jerry AK6QJ

Below, a small sampling of the call sign plates spotted at this year's PARC Field Day event. Photo by Paul KB5MU.

See more photographs from Field Day in this issue of the Scope. It's never too early to start planning for next year!



Save the Date

Club Meeting

7 August 2013

The 7:30pm program is about HF Propagation and is presented by Jerry AK6QJ

Board Meeting

14 August 2013

Palomar Amateur Radio Club board meeting at 7:30pm at W6GNI QTH.

Club Picnic

18 August 2013

Join us at San Deguito County Park Area 4. Hours are 9:00 AM to Dusk (or so).

Fold & Staple for JULY SCOPE 2013

AI W6GNI & Kathy, Sonny WA5ACE
Art KB6YHZ and Janet Meyer
Jo KB6NMK and Toby Ashley

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale:

- 1) New Butternut HF9V 9 band vertical antenna (80, 40 30, 20, 17, 15, 12, 10 and 6 meters) and Butternut CPK Counterpoise Kit. Both antenna and CPK kit are unopened in original boxes. I am selling as a package only - \$475.00
 - 2) New Diamond DPGH62 6 meter monoband base station antenna - 21 ft., 6 dB gain. Unopened in original box - \$100.00
 - 3) Icom IC-208H 2 meter + 70 cm mobile radio. Excellent condition in original box - \$225.00.
 - 4) Icom IC-7000 all mode HF/6 meter + 2 meter + 70 cm mobile radio. "Like new" condition with very little use. MB-62 mobile mounting bracket included. In original box - \$850.00.
 - 5) Astron RM-35-M rack mount 25 amp linear power supply with meters. Excellent condition, low use - \$200.00
- Contact Dean W6DBJ at 760-727-5954 or deanjacobsen@earthlink.net

For Sale

I have for sale an MFJ-1786 Super-Hi Q loop antenna for 10-30 mHz. In excellent condition and handles 150 watts. Can be mounted horiz or vert. \$300 and pick-up in Vista.
Marsh 760-536-3220

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors. Insertion loss is .9 dBa per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

PARC APPAREL SALE

PARC apparel will be ON SALE at this month's club meeting.

1. One Time late 2013 Field Day T-Shirt Sale.- For members who desire to purchase a PARC 2013 Field Day T-Shirt. This is a one-time order that will not be repeated. Prices and details are:

T-SHIRT WITH CLUB LOGO + FIELD DAY 2013 PRINTED ON THE BACK, PLUS OWNER NAME AND CALL SIGN ON RIGHT BREAST.

100% cotton. Light blue T-Shirt. Logo, Name and Callsign embroidered in Navy blue.

Men and Ladies styles available

Sizes (S, M, L, XL)	\$17.00
Size XXL	\$19.00
Size XXXL:	\$21.00

2. PARC Standard T-Shirts. This marks the first sale of what will be standard PARC T-Shirts. 100% cotton. The T-Shirt details are as follows:

Standard T-Shirt light blue has PARC Club Logo in Navy blue on right breast. Men and ladies style available.

Sizes (S, M, L, XL)	\$12.00
Size XXL	\$14.00
Size XXXL:	\$16.00

Options

Pocket over LEFT breast	+ \$1.00
Name & Call over LEFT breast	+ \$5.00

For example, an order for a Large T-Shirt, with pocket and owner's call sign and name will cost \$18.00. If the owner is in need of a size XXL, then the cost is \$20.00

In the near future the Club will also start sales of Polo Shirts, ball caps, and miscellaneous apparel.

Membership Info for August Scope

While we certainly appreciate Reinstated members, we believe many "Reinstatements" are due to members not aware that their membership was due.

Since many members now get the News Letter (SCOPE) on the web, they don't receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member's calls that are getting close to renewal time. The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership. HD0IF, KI6PTN, WA7TCD, WJ6YPR, W0NI, K7ELH, AK6QJ, WZ6RAM, KK6OT, KI6RF, N6URW, WB8BHE, K6BZZ, KJ6DPT, KC6YSO. - more next month! JULY IS ALWAYS A BAD MONTH FOR PARC! This goes all the way back to when all memberships rolled over in July. Please check - did your membership expire in July 2013??

Thank you,
Al W6GNI
Membership



Preliminary A/B/C tests Flex 6700

By Howard S. White Ph.D. P. Eng. KY6LA

Finally came home from my 5+ week extended travels and in spite of severe Jet Lag I was able to install the Flex 6700 and put it through a few basic tests.. especially a comparison A= Flex 6700, B= Flex 5000A, C= Icom 756 Pro 3.

Test Setup with Flex 6700 on Top of Pro3, front and back.



Installation was a breeze. Open box, plug in antenna, GPS antenna, microphone, speakers, Ethernet cable. Connected a 12V power supply, downloaded the SmartSDR Preview Beta Test Software (V0.12.17). It installed automatically. Firmware was updated on the radio, and Voila, I was on the air.

More significantly, the radio is controlled by an Ethernet connection (It has its own IP). I could run the radio from any of the computers on my network. NO SPECIAL COMPUTER required. While I prefer to use a superfast modern W7 machine, it ran easily on my oldest 1999-era computer running Windows XP SP3.

Now, the software is clearly "Beta Test Software" as I reported back in April from Visalia. Many things do not work yet but a heck of a lot more stuff is working now and the receiver performance has improved significantly.

Out of the box, the first thing you notice is the almost complete absence of background static compared to a traditional radio. It is a direct sampling radio, so there are NO NOISE SOURCES like local oscillators and mixers and amplifier stages to inject noise into the receive chain. In spite of being so quiet, it really hears better than any other radio I have ever owned.

So how did we do in the tests?

I set up an antenna switch as follows:

A= Flex 6700,
B= Flex 5000A,
C= Icom 756 Pro 3

**HAM
RADIO
OUTLET**

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

**KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON**

**Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!**

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!



All three were on my SteppIR MonstIR and could be switched instantly so I could sample the different signal sources.

Sensitivity

1. The Icom is basically deaf... even with preamps it misses a lot of signal in the static..
2. The Flex 5000A would hear signals that were copyable that the Icom could not hear let alone copy.
3. The 6700 could hear signals that were copyable that the Flex 5000 could hear but were not copyable.

Case in point, I did 3-way QSO with a DU2 station on the front of my beam and a W2 station coming off the back of my beam. Needless to say the DU2 was 20 over S-9 or better on all radios. I could copy the W2 on the 6700 (No PreAmp). I could hear his presence on the 5000 but not make out anything intelligible even with preamp. I could not even hear him at all on the Pro 3 even with the preamps on.

Minimum Discernible Signals (MDS)

All Measurements were taken with the pre-selector ON in Narrow Spectrum Mode. Note that Lab measurements can vary by at least 1dBm in practice. For reference S0 = 127 dBm

141dBm is equivalent to almost - S2.... i.e. 2 S units below S0

Internal Pre-Amp Gain	10m MDS	6m MDS
0 dB	-122	
10 dB	-125	
20 dB	-136	-138
30 dB	-141	-141

From 160M- 15M there really no need for the Pre-Amp as the MDS was below -143dBm

Bottom Line.. it looks like the 6700 is going to be a killer DX Radio for capturing those really weak DX Signals.

Dynamic Range:

I found a couple of really strong SSB stations (S9+50db). Then I looked for really weak stations (S0 - 127dbm or less) close to those strong stations to see how close in I could copy a weak station before the strong stations totally swamped my front end.

continued on page 15

Field Day Photos from Paul KB5MU





Satellite operations
Art KC6UQH



THE BIRDCAGE



YOUNG MARINES



POWERED BY THE SUN - WWW.SLEEPINDARKNESS.COM





PC Tips from Dick K6KAL

PC Tip No.2:

Phantom ports

Some of the following info was gleaned from the N1MM on-line documentation.

Many users of USB to serial adapters may have noticed relatively high port numbers being assigned. And some if not most of the lower COM ports are all committed to other things. It has been found that this strange behavior is in fact 'relics of the past'. As an example, COM3 used to be the standard port for built-in modems, and even though those modems have largely gone the way of the dinosaur, many computers still show COM3 as committed to that use.

If you are familiar with the use of Device Manager, you can always set up several hardware profiles, including one for ham radio that deletes the devices that are getting in your way (printers and so on). That way, you are only a reboot away from being ready to go for radio or being back in everyday mode.

Sometimes, though, ports will not seem to be committed, but when you try to create virtual serial ports (with a USB-to-serial adapter and Bluetooth adapters for example) Windows will inexplicably skip some lower number ports, or complain that they are 'In Use'.

Often there are ports assigned which no longer have devices connected to them. These are called "phantom ports". These can be discovered and removed. It may then be possible to move ports around to accommodate the individual needs of the program(s).

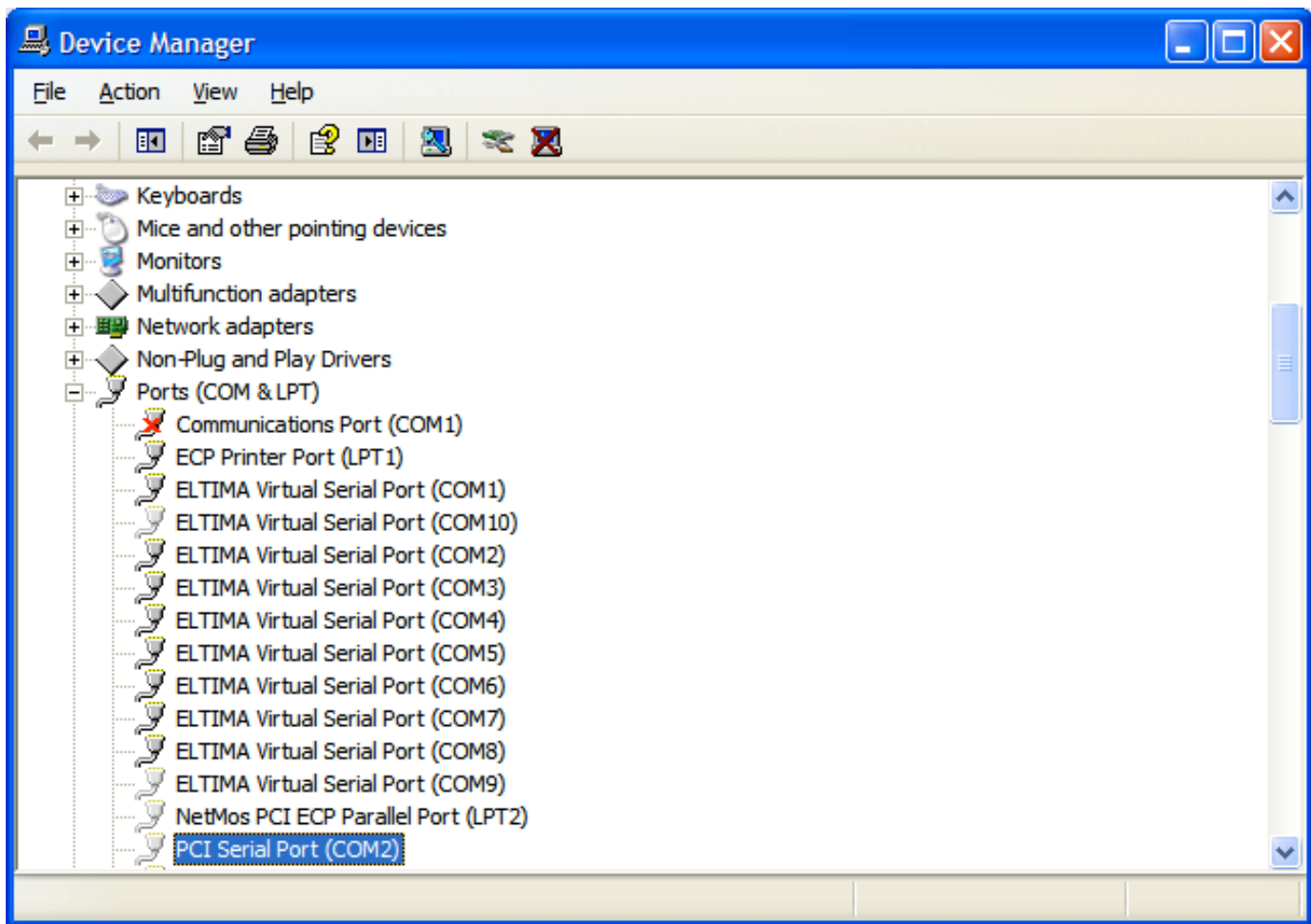
Here is how to have Device Manager show any "phantom" ports. (WIN 7)

Most of these steps are similar in win 7 (Vista) and Win XP

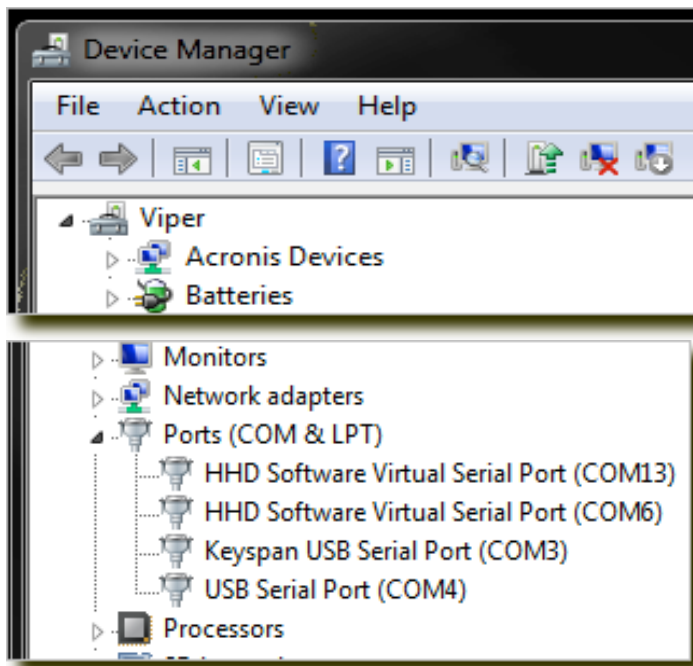
1. Click Windows 'Start' Icon
2. Click Control Panel
3. From Control Panel, Select 'Device Manager'
4. When the device manager opens, click the 'View' menu
5. Click 'Show Hidden Devices'. You may see lots of other devices, but we are looking for just the serial ports here.
6. Click on the + sign next to the Ports to see the full list of Com ports being used
7. Highlight the port you wish to delete and then press delete

Accept when asked to do so and continue with any more that you wish to delete.

Here's what the Device Manager may look like before you delete the phantom ports. In this example, a 'Micro Ham' router or other 'Virtual Serial Port' emulator was loaded, which accounts for all the ports with the similar description.



And this is an example of another serial port emulator.

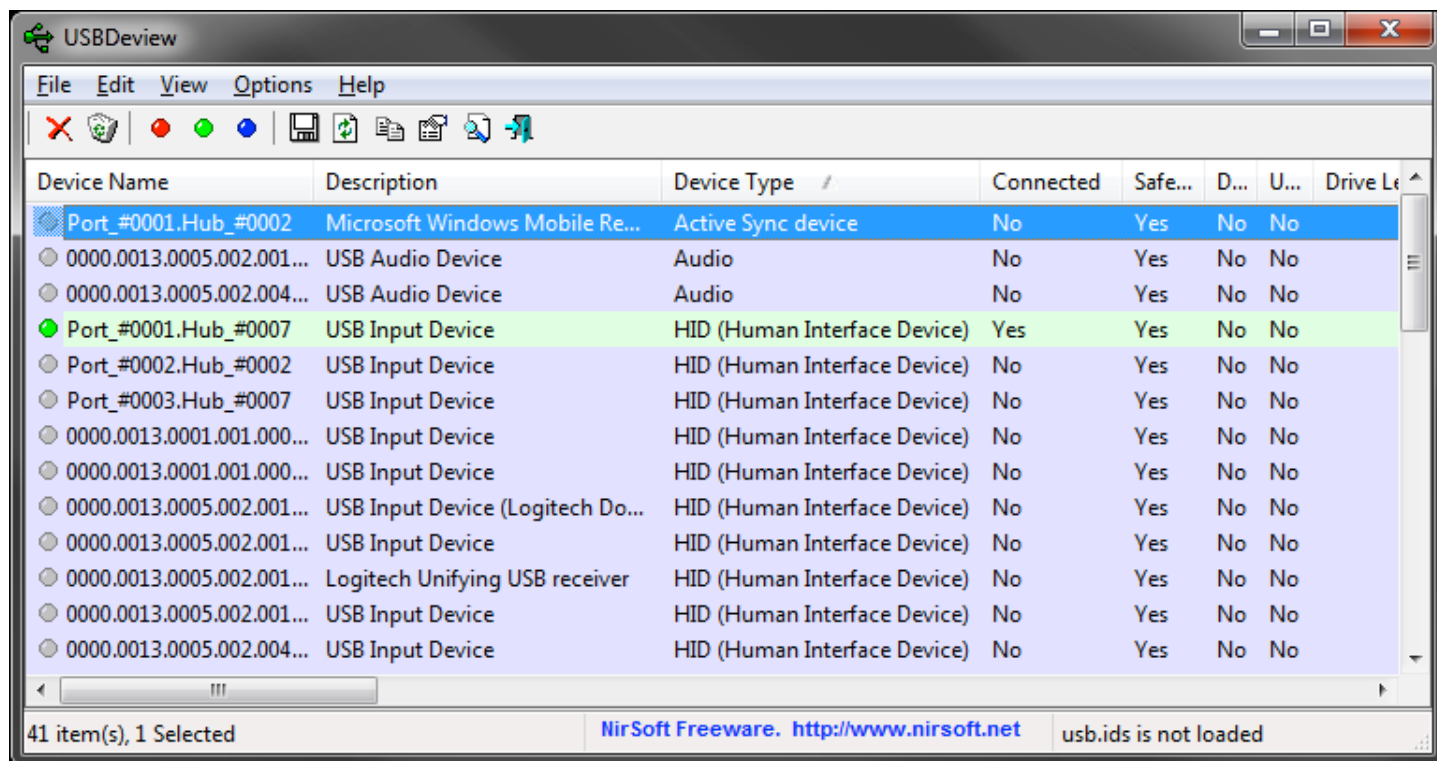


If you want, you can right-click on any of the shaded ports and examine their

properties. Each one that is inactive will show up as a "device no longer connected to this computer."

If you are unsure as to whether the driver is in use don't worry. If windows needed them, it will reinstall the driver.

There is a 'Freeware' utility called USBDeview available at 'nirsoft.net' that is very slick.



To see the unused or old drivers, select Options, and check 'Display Disconnected Devices'.

As you can see in the example the 'green' line is the only device connected, the grey lines are those that are not.

My first use of this utility produced a list of over 145 devices that at some time in the past were plugged in. In many cases they were the same device plugged into different hubs. If you scroll the window to the right you can see the 'Last Plug/Unplug Date'. You may be surprised as to how long ago this device was last used.

Pretty neat ? Well how does Microsoft keeps track of these devices. For each device driver that is loaded on a USB hub / port, some data about each device (as you can see from the column headings in the utility) are kept, which allow MS operating systems to load or re-load the drivers as needed.

But old or unused drivers just take up space, and when a device is plugged in, the operating system must scan this growing list of devices to find what it thinks is a compatible driver.

Right clicking on a line will bring up a menu that will allow you to select 'Uninstall Selected Device', effectively removing the unused driver.

There you have it. Cleaning up old Phantom ports has lead us to cleaning up old USB drivers. While this is not a big game changer as far as performance, it will allow for improved USB device load / unload, as the pool of drivers would be smaller, saving time.

As an aside, this utility also shows the power consumption of each USB device, driver version and many other interesting facts. Remember each port is limited to 100 ma, and a fully loaded hub could be shutdown by the operating system if the ratings are exceeded. Then you would need to purchase a 'powered' hub to give your system the extra power it may need.

Participation points are earned by members supporting Palomar Amateur Radio Club. Support comes through attendance at meetings, work parties, operating events, and community support. These points can be redeemed for tickets at the annual picnic held in August. Points can accumulate up to a maximum of 20 per individual. Historically there are several gift certificates available to win. The real reward is your participation in ham radio. (But maybe a small bribe (*editorial note: to the EDITOR!*) will help!)

IMPULSE Electronics .com

- Wouxun Radios and Accessories
- Powerpole Connectors
- Power Cables
- Coax Cable
- Coax Connectors
- Custom Cable Assemblies
- AGM Batteries and Accessories
- CTek & UPG Batteries Chargers
- Fuses and Holders
- Terminals and Splices
- Tools
- RF Industries Coax Adapters



(866) 747-5277



MAYOR WOODS, SCOUTS, FRED, AND GREG AT PARC FIELD DAY 2013. PHOTO BY CONRAD.

NiCd Lady Company

Grace Lloyd
N6WPA
grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs
20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/906-6423
951/653-8868
Fax 951/653-5189

Your Complete Battery Source

RF PARTS
COMPANY
From Milliwatts to Kilowatts™

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com

Since 1967

continued from page 5

1. The Pro 3 was swamped by anything less than about 10 KHz away so it became really difficult to copy when you had a strong station nearby.

2. The 5000 was pretty good down to at least 1 KHz (as long as it was not in the passband) before I heard some bleed thru but was still copyable.

3. The 6700 was almost unaffected by close in strong stations. And, realistically, unless the strong station was actually in the receive passband, it really did not seem to hurt reception.

One unique feature of an SDR is that the filters can be incredibly narrow (1Hz or less) and you do not hear any ringing. They do not need roofing filters to keep out the junk as they do a much better job in software.

The Flex 6700 only has a 16 bit S/D Converter so how can you get more than 96 dB of instantaneous dynamic range out of a 16-bit A/D converter?

You may think that one can only achieve 6 dB per bit, which would be 96 dB. Technically the theoretical maximum limit is $6.02n + 1.67$ dB (where n is the number of bits). What many people fail to understand is that dynamic range is a meaningless term without knowing the final detection bandwidth (i.e. 500 Hz CW filter).

Instantaneous dynamic range increases with decreasing bandwidth by a factor of $10 \cdot \log(\text{bandwidth change})$. That means that a 50 Hz filter will provide 10 dB higher dynamic range than a 500 Hz filter. That is why you hear less noise in the smaller filter. The actual receiver noise figure (NF) of the radio has not changed but the detection bandwidth has. Thus the SNR and dynamic range improves accordingly.

The dynamic range of any ADC is normally assumed to be specified over the Nyquist bandwidth, which is equal to 1/2 of the converter's sampling rate.

With the ADC used in the FLEX-6000 series, the Nyquist bandwidth is 122.88 MHz. To calculate instantaneous dynamic range, one needs to know the converter's specified signal to noise ratio (SNR), maximum peak signal handling capability, sampling rate, and final detection bandwidth.

The bottom line is that the FLEX-6000 ADC running at 245.76 Msps provides a nominal instantaneous dynamic range on the order of 130 dB in a 500 Hz bandwidth or about 140 dB in a 50 Hz bandwidth. Compare this to the new FT-DX5000 which touts a dynamic range of 112dB as its proudest

achievement.

Bottom Line...it looks like the 6700 is going to be a killer contest and pileups radio when they finish the contest modules.

Transmit

Here the 5000 got glowing reports for my audio. The Pro 3 got pretty good reports. The 6700 transmit audio definitely needs work!

However this is beta test software and I know they have not released the final transmit audio module.

So what is next? Software updates seem to be coming out regularly so more and more bugs that we discover are being fixed.

Performance should improve even more over the next few weeks.

I went to HRO today and bought a 4 positions coaxial switch so I can test the 6700 against the Flex 5000, a IC-7800, IC-7700, K3 and KX3.

If someone has a Yaesu FTdx-5000 or a Heiberling that they wish to lend to the test, I would love to add them to the test schedule.

I figure I should be able to do more intelligent testing once my Jet Lag subsides and I am sure that Dennis N6KI will think of some tests I have not even considered.

Find the manual for the 6000 series here:

http://www.flex-radio.com/FLEX-6000_v2.pdf

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 7 August 2013, Palomar Amateur Radio Club presents "Propagation 101"

AK6QJ describes how he used a basic understanding of HF propagation and readily available free (!) software applications to plan his Field Day strategy. Featured will be 24 hour animations of worldwide propagation for selected bands. While the material is geared to the new HF operator, more experienced hams might find the animations of interest.

Presented by Jerry AK6QJ

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



What To Do When...

Recently there have been intruders on our repeaters using foul language. In general, intruders are operators without licenses. However, a licensed operator can also be an intruder if they are using the repeater illegally.

Please remember, when an intruder comes onto our repeaters, treat them the same as jammers. Do not acknowledge them.

Note the time and any identifying call signs or IDs. Forward the information to the Board so it can be logged and checked out.

If they are unlicensed, we want to encourage them to get licensed by inviting them to join the Club and offer help to start them on their way to Amateur Radio.

If they are foul-mouthed, contact a Control Operator or Board Member to have the repeater controlled to prevent a problem with our license.

September 4th Meeting

Ham Radio Software and Digital Modes

A light hearted on-the-air demonstration of digital modes (including CW) and modern software for radio control, including Ham Radio Deluxe (HRD), and operation of multiple digital modes.

N1MM and HRD will be demonstrated. The basics of HRD Version 6.0 will be shown controlling a modern radio, the features of the HRD Logbook will be explored, and HRD-DM780 will be shown operating digital modes. PSK-31, PSK-63, PSK-125, Contestia, Olivia, JT-65 and JT-9 will be demonstrated.

Presented by NN3V Charlie at 7:30pm. Please join us at 7:00pm for socializing.



FRED ATCHLEY AE6IC RECEIVES ARRL AWARD OF MERIT.
PHOTO SUBMITTED BY PAUL WN6K.

Save the Date

Club Meeting

4 September 2013

The 7:30pm program is about digital modes, presented by Charlie NN3V

Board Meeting

11 September 2013

Palomar Amateur Radio Club board meeting at 7:30pm at W6GNI QTH.

Event

21-22 September

10GHz and Up Microwave Contest second and final weekend

"WOW" Fold & Staple Workers for August SCOPE. We had a super turnout of "Old Timer" Workers!

The "TEAM": Al W6GNI & Kathy, Roni W6EPM, Sonny WA5ACE Art KB6YHZ, Jo KB6NMK, Toby Ashley, Terri N6UZH, Tyler KJ6ZLT, Dave KI6LKP, Tatthew Brewer, Teresa KJ6QQD. WOW !! Thank you, all! One would hardly believe that this Guy (Al - W6GNI) is retiring - Last Fold & Staple for me will be the January 2014 issue of the SCOPE to the Post Office!! (Sooner, if someone comes forth!)

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

- 1) New Butternut HF9V 9 band vertical antenna (80, 40 30, 20, 17, 15, 12, 10 and 6 meters) and Butternut CPK Counterpoise Kit. Both antenna and CPK kit are unopened in original boxes. I am selling as a package only - \$475.00
- 2) New Diamond DPGH62 6 meter monoband base station antenna - 21 ft., 6 dB gain. Unopened in original box - \$100.00
- 3) Icom IC-208H 2 meter + 70 cm mobile radio. Excellent condition in original box - \$225.00.
- 4) Icom IC-7000 all mode HF/6 meter + 2 meter + 70 cm mobile radio. "Like new" condition with very little use. MB-62 mobile mounting bracket included. In original box - \$850.00.
- 5) Astron RM-35-M rack mount 25 amp linear power supply with meters. Excellent condition, low use - \$200.00

Contact Dean W6DBJ at 760-727-5954 or deanjacobsen@earthlink.net

For Sale

MFJ 269 HF/VHF/UHF antenna analyzer, new in box, never used, includes N to 259 adapter. MFJ price: \$390. Yours for \$300

MFJ 1275M Sound Card Interface, new in box, never used. Includes AC power supply, computer cable, audio cables. MFJ price \$110, yours for \$75

MFJ 949E Antenna tuner, 300 W, internal dummy load, balanced or unbalanced feedlines. Dual SWR/Power meters, 2 switchable coax connectors. Used but in excellent condition with manual. MFJ price: \$190. Yours for \$90

Ron K2RP K2RP@ARRL.NET or 760 436 8109

For Sale

Tektronix TM504, 4 slot compartment Powered main frame. \$80.00

Collins 302C-3. Forward and Reflected Watt Meter. 2Kw and 200 watts. Complete and working. \$80.00

Hewlett/Packard 403B. 1mv -300v RMS. No line cord. \$40.00

Collins Station Control. 312B-5, with remote VFO watt meter. phone patch and manual. \$200.00

Pete K6JQE, Pick up in Solana Beach. 1-858-755-4838

For Sale

Cushcraft MA5VA HF multi-band compact vertical. Covers 20-10 meters. \$100

Gary, W3LFR
858-335-0546

For Sale

I have for sale an MFJ-1786 Super-Hi Q loop antenna for 10-30 mHz. In excellent condition and handles 150 watts. Can be mounted horiz or vert. \$300 and pick-up in Vista.

Marsh 760-536-3220

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors.

Insertion loss is .9 dBA per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

For Sale

The Alinco DJ-580 illuminated keypad button does not work.....No Backlighting of keypad, Transmit coverage is: 130-173.995 and 400-519.0995 with Mars/Cap Mods completed, Radio has no worn pads and all LCD display functions work as new, case looks like new, this radio comes with (1) EBP-20X 7.2 volt 1650Mah battery used only a few time before put away, (1) EBP-20N 7.2v 700Mah pack (not sure how long it will last) (2) EDH-11 dry cell pack (1) Yaesu dual band antenna and (2) Alinco EDC-24 Slow chargers and (1) DJ-580. I have checked this radio on simplex and our local repeater and it sounds fine, you would be hard pressed to find a radio in better condition than this one. excellent condition, As with all electronics this radio is sold AS IS, It will not be DOA, asking \$100 OBO, James 760-722-2797.

Important Notice New Treasurer Sought

by Dennis KD6TUJ
PARC Members,

At the December 2012 meeting a new board was elected to lead PARC and protect its interests and promote Amateur Radio.

Over the past 3 months the Board of Directors has attempted to reach the Treasurer but has received no response.

At the August 14th board meeting it was approved to bring before the members of Palomar a motion to remove the current Treasurer.

This is not an action the board proposes lightly. We would prefer not to embark on these proceedings, however in order to ensure the continued operation of the Palomar Amateur Radio Club in accordance with its bylaws and sound business practice, we feel it is important to have a Treasurer that is reachable and able to report on the financial health of the organization.

At the September meeting a motion will be brought to the floor "To remove the Treasurer from office". Discussion, if any, will occur, and a vote taken. A "simple majority" is required for the motion to pass. If the Treasurer is removed from office, nominations from the floor will be taken for a replacement and voting will occur. Any person nominated must express a willingness to serve at the time of nomination. If no persons are nominated for the Treasurer position at the August meeting, an appointment will be made by the members of the the Board. Any Treasurer elected or appointed will serve the remaining term until the December elections.

Respectfully submitted,
Dennis Baca
President Palomar Amateur Radio Club.

CQWW 160m CW Contest Report

by Dennis N6KI

Dang - 2nd place CA in the Single Op Assisted Category. With all the noise at Nash QTH, this is surprising I even got that high up the list! How the heck did N6QQ come up with 22 countries worked ? (I had 9)

Wayta Go Rusty (AF6WF)

CALL	Score	QSOs	W/VE Mults	Countries Worked
N6QQ	65,664	326	54	22
N6KI	56,259	399	54	9
N2NS	45,424	232	51	17
W6SX	29,784	259	45	6
W6DR	27,189	168	45	12
N6JV	25,928	166	44	12
K6NV	15,365	212	33	2
WV6E	15,092	152	39	5
W8KA	14,706	137	38	5
K9YC	13,104	113	43	5
NI6T	3,720	32	14	10
K6JEY	2,525	39	19	6
AF6WF	1,200	37	14	1
K2RDX	550	12	7	4
WQ6X	66	11	3	0

HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

PARC Booth at Mini Maker Faire

by Paul KB5MU

You've probably heard of Maker Faire. Did you know that a Mini Maker Faire is coming to San Diego? It's tentatively scheduled for December 7, 2013. I think our club ought to be there.

What is Maker Faire? The company that runs it (Maker Media, publisher of Make Magazine) calls it "the Greatest Show (and Tell) on Earth -- a family-friendly festival of invention, creativity and resourcefulness, and a celebration of the Maker movement. Part science fair, part county fair, and part something entirely new, Maker Faire is an all-ages gathering of tech enthusiasts, crafters, educators, tinkerers, hobbyists, engineers, science clubs, authors, artists, students, and commercial exhibitors. All of these "makers" come to Maker Faire to show what they have made and to share what they have learned."

The big Maker Faire events happen in San Mateo and New York each year, but a network of Mini events is springing up in cities all over the world. The Orange County Mini Maker Faire at U. C. Irvine has been held twice already. San Diego is just starting this year. The local events are run by local groups and loosely affiliated with Maker Media.

These are gatherings of exactly the kind of people who would be interested in amateur radio if they knew more about it. We could hardly ask for a more fertile recruiting ground, or a place where we have a better chance of showing amateur radio in the best possible light. It should be a lot of fun to show off for such a sympathetic audience.

The big San Mateo Maker Faire has had a strong amateur radio presence. This year, three groups were exclusively amateur radio. Indoors, a local amateur radio club had a small booth, where they were showing a wide variety of amateur radio gear, demonstrations, and displays. Right next door, a group of microwave enthusiasts drawn from both the northern and southern California microwave groups had a jam-packed booth of microwave displays and demonstrations, themed "Not Your Grandfather's Amateur Radio". Outdoors, another amateur radio group was operating an HF station and showing an emergency communications van. Besides these three, several other booths had mentions of APRS, amateur radio satellites, and so on. It was the best public showing of amateur radio I've ever seen. A subset of the microwave display also appeared at the Orange County event, and those same volunteers intend to bring it to the San Diego event as well.

An outdoor demonstration display at the Mini Maker Faire could be a lot like our club's recent Operating Day events. We know how to do that! We even have a network of other local clubs that have helped in the past. One of PARC's typical Operating Day setups would be better than what I've seen for outdoor demonstrations, even at the big Maker Faire in San Mateo. We might need to make it more compact to fit into the space we could be allocated at a Mini Maker Faire. That would have to be negotiated with the event managers.

As for an indoor display to supplement the microwave display, we'd have to come up with something new. We might want to consider involving other clubs in a collaboration. We would want to come up with some unique demonstrations and displays, so that the folks who stroll past the booth will learn something and be interested. Ideally, we'd have at least a few activities that people would want to stop and interact with. We have three months to come with some great ideas and make them happen.

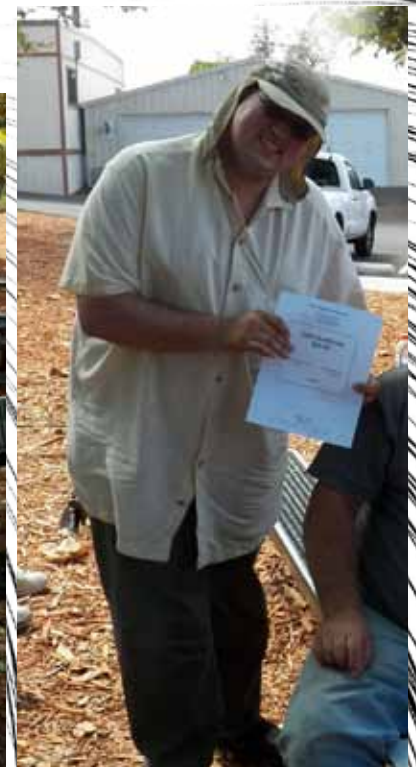
Please give it some thought and send your ideas to your Board of Directors, board@palomararc.org. If you're interested in getting involved and helping to do some of the work, that's even better! I'll probably speak briefly about this at the September PARC meeting, and I hope the Board will adopt this as an official club activity. Watch the web site for updates.

<i>NiCd Lady Company</i>	
Grace Lloyd N6WPA grace@nicdlady.com	
www.nicdlady.com	
Custom Assembly • Rebuilds • Batteries • Lead Acids • Replacement Packs 20585 Camino Del Sol • Unit B Riverside, CA 92508 800/906-6423 951/653-8868 Fax 951/653-5189	
Your Complete Battery Source	

Picnic Photos from Don WD6FWE



THE TRANSMITTER HUNT WAS SUCCESSFUL. HERE'S THE MOMENT OF DISCOVERY. THE TRANSMITTER WAS HIDDEN WITHIN THE BRICKS BEHIND THE "STAIRS".



ACTIVITY POINTS EARNED THROUGHOUT THE YEAR TRANSLATE TO TICKETS IN THE PRIZE DRAWING AT THE ANNUAL PICNIC. HERE ARE THREE HAPPY WINNERS, WITH THE HAM RADIO OUTLET GIFT CERTIFICATES THEY WON.

June Meeting Photos from Paul KB5MU



Palomar Amateur Radio Club Field Day Scoring Sheet

Class:

5 A

Web Submission:

50

Band / Mode QSO Breakdown:

	CW	DIGITAL	PHONE	TOTAL QSO's	TOTAL PTS
160M	0	0	0	0	0
80M	98	0	117	215	313
40M	361	0	54	415	776
20M	932	0	831	1763	2695
15M	245	0	31	276	521
10M	2	0	15	17	19
6M	0	0	0	0	0
2M	0	0	0	0	0
1.5M	0	0	0	0	0
Other	0	0	0	0	0
Satellite	0	0	11	11	11
TOTAL:	1638	0	1059	2697	4335

Bonus Points:

Category:	PTS
100% Emergency Power	100
Media Publicity	100
Set-Up In Public Place	100
Information Booth	100
NTS To ARRL SM/SEC	100
W1AW Field Day Message	100
NTS Messages Handled	10
Natural Power QSOs	100
Site Visit Elected Official	100
Site Visit Served Agency	100
Youth Participation	20
Educational Activity	100
Satellite QSO	100
TOTAL BONUS	

Power Multiplier:

2

Total Band QSO Score:

8670

Station Scores

STATION	Total QSO's	Total Score
20/80 CW	1030	4120
20/80 SSB	948	1896
15/40 CW	606	2424
5/40 SSB	85	170
10M	17	38
6M	0	0
GOTA	54	148
Total QSO Score W/ GOTA:		8796

TOTAL FIELD DAY SCORE: 1036

GOTA STATION:

Name	Call	Total QSO's	20 QSO?	T W/ COACH
Roger Hort	KK6CTI	6	0	12
Danny Smith	KK6AOZ	5	0	10
Ashley Gruff	N/A	1	0	2
Paul Varesio	KJ6VXM	7	0	14
Paul Babb	K6OT	1	0	2
Amy Edey	N/A	1	0	2
Eric Tanori	KK6DDZ	1	0	2
Joseph Peterson	K6JPE	21	20	82
Andy Hunt	N/A	2	0	4
Greg Gibbs	KI6RXX	1	0	2
Luke	N/A	4	0	8
Dayna	N/A	1	0	2
Jimmy	N/A	3	0	6
TOTAL GOTA POINTS:				148



LY
Difference
QSO's



Multiplier	Total PTS
5	500
1	100
1	100
1	100
0	0
1	100
0	0
1	100
1	100
1	100
5	100
1	100
1	100
US POINTS:	1500

68

12082
-1714
-657



Field Day Setup Photos by Paul KB5MU



Friday Lunch Bunch - Join Us!



Topics at the Friday Lunch Bunch range far and wide. At the most recent lunch bunch meeting, members shared video and photographs from a trip to Alaska, updates on projects, vivid descriptions of a recent DXpedition, and opinions about upcoming club events.

Sign up at www.w0ni.com

The group is casual and diverse, and meets at a variety of area restaurants on a rotating basis.





Picnic Report

by Dennis KD6TUJ

Palomar Amateur Radio Club, having completed another year of activity, had a picnic for Club Members. The picnic was held at San Dieguito County Park, area 4, starting at 9:00 AM. The trailer was brought out for HF operating. The band was open on 20m. Indiana State Fair W9ISF was the first contact. Solid copy!

The raffle Kenwood TM 281A mobile radio was the local 2m repeater radio. Good comments on its sound were received through the day. Tom KG6RCW did the cooking for the bunch with hamburgers and hot dogs for all. A generous spread was brought and filled the table. Greg KI6RXX and Conrad KG6JEI set out a t-hunt radio to find. Greg even made info cards on what to listen for and suggestions for new hunters on how to search.

At 2:00 PM, after being stuffed with food, fun, and good conversation, the drawing was held. The drawing tickets are awarded for member participation in club events. These include meetings, Field Days, work parties, and any other club sponsored event. A maximum of 20 tickets are permitted per member. Several individuals achieved this amount. Even a first time event participant starting at the picnic gets a ticket as a member. Winning the drawings for gift certificates to Ham Radio Outlet were: \$100 - Tim N6CUX, \$50 - Don WD6FWE, \$50 - Ron KG6HSQ, \$25 - Harry W6YOO, \$25 - Rich NI6H, \$25 - Kim KA6KIW, \$25 - Conrad KG6JEI. Winning the raffle to the Kenwood TM 281A mobile radio preprogrammed for the San Diego County Open repeaters is Eddie Richins (below with Dennis KD6TUJ). This shows anyone can win. Eddie joined our club at the picnic.

Dennis KD6TUJ



Info for SEPTEMBER SCOPE

While we certainly appreciate Reinstated members, we believe many "Reinstatements" are due to members not aware that their membership was due.

Since many members now get the News Letter (SCOPE) on the web, they don't receive the paper copy that we mark blue when membership is almost over, and red when the time for renewal has passed.

The Board has recommended that we publish member's calls that are getting close to renewal time. The following members are due for renewal in a month or so. Hopefully, if your call is in this list, you will find time to send a check, or tell PayPal to renew your membership. KJ6DBT, KC6YSO, W6HDG, N6TO, WB6CO, N6JO, W6DBJ, K6SML, KI6SRB, W6TRB, KD6PTZ, NU6L, KG6TUL, KE6ZLX, KJ6LLO, W6UDO, NE6O, WA6L. - more next month! Please check - did your membership expire in July or August 2013??

Thank you,
Al W6GNI
Membership

ARRL 2013 HANDBOOK RAFFLE

The ARRL is commemorating its 100 years by issuing a special ARRL Centennial Edition of The Handbook.

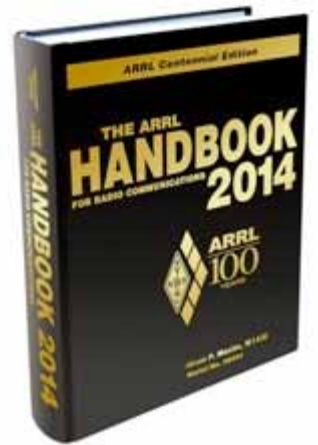
Features:

- Gold foil/embossed hardcover
- Personalized with your NAME and CALL SIGN
- Serial numbered commemorative edition
- Major new edition: components, new projects, latest technology
- CD-ROM included—a fully searchable digital edition

The Palomar Club will raffle a Handbook in October 2013 at the PARC monthly meeting. The raffle winner's Name and Call Sign will be embossed in gold letters on the Handbook's cover. Raffle tickets are \$1.00.

Raffle tickets are on sale now!

Don't miss an opportunity to own one of the standards of ham radio. Get your ticket immediately!





RF PARTS[™]
 COMPANY
From Milliwatts to Kilowatts[™]

Complete inventory for servicing amateur
 and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
 Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
 3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
 4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com





Wouxun Radios and Accessories

Powerpole Connectors

Power Cables

Coax Cable

Coax Connectors

Custom Cable Assemblies

AGM Batteries and Accessories

CTek & UPG Batteries Chargers

Fuses and Holders

Terminals and Splices

Tools

RF Industries Coax Adapters







(866) 747-5277

A Box of Frequency

by Paul KB5MU

Operating on the microwave bands, it can be a challenge to be on the right frequency. For example, consider an ordinary crystal oscillator with an accuracy of 10 parts per million (ppm), typical of a 1960 vintage HF rig, if it's properly calibrated. On 20 meters, that accuracy would get you within 140 Hz of the indicated frequency, which is close enough for most purposes. On the popular 10 GHz microwave band you could be off by 100,000 Hz, about forty times the width of your SSB voice signal! This is the difference between just being on frequency and having to tune around blindly searching for the signal. Since most microwave contacts are arranged on a separate liaison channel, it's convenient to be able to name and hit a specific frequency with good accuracy.

It isn't too hard to make an oscillator better than that. Many modern transceivers can be equipped with a temperature compensated crystal oscillator (TCXO) module, which can reduce the error to around 1 ppm by sensing variations in temperature (the main source of frequency drift) and tuning the oscillator to compensate. The next step beyond that is to add a heater, so as to operate the crystal oscillator at a known temperature, chosen to be a relatively stable temperature for the particular type of crystal being used. A carefully implemented oven-controlled crystal oscillator (OCXO) can be a laboratory reference standard for frequency measurements.

Beyond the OCXO there are atomic frequency standards. The most affordable is a rubidium oscillator (1 part per billion). The most accurate oscillator you can buy (if you're rich) is a cesium frequency standard. The official international definition of time is currently based on the same mechanism as the cesium clock, and the official measurement of time is made by averaging a number of specific cesium clocks. Researchers are experimenting with new technologies that are even more accurate. Luckily, in amateur radio we don't usually need this kind of frequency accuracy.

One place where that kind of precision does matter is in the GPS navigation system. It depends on all the satellites being precisely synchronized. As a useful side effect, a fairly ordinary GPS receiver can be designed to extract highly accurate measurements of time and frequency from the satellite signals. The resulting values are far more accurate than the

inexpensive oscillator built into the GPS receiver could achieve on its own.

If you combine an OCXO with a GPS receiver, and use the GPS frequency measurements to phase-lock the oscillator to the GPS system, you have what's called a GPS Disciplined Oscillator (GPS-DO). A GPS-DO can be accurate to one part per trillion. That's more accurate than rubidium, and not that much worse than cesium. Pretty impressive!

Another place where this kind of accuracy matters is in modern digital cellular telephone systems. Not in the phones, fortunately, but in the base stations. Early base stations used either a rubidium standard or a GPS-DO, and many of these base stations have since been upgraded to newer technology. That means a whole bunch of these frequency standard devices have appeared on the surplus market. One such is the Trimble Thunderbolt GPS-DO. A group buy was arranged through TAPR, and I ended up with one. Thunderbolts are still available on eBay, at a somewhat higher price (about \$225).

When first turned on, a GPS-DO is just a crystal oscillator. A lot has to happen before the frequency is as accurate as possible. The oven has to warm up to the nominal temperature. The GPS receiver has to acquire the signal, do a high precision position fix, and then phase lock the oscillator to the GPS system. All this takes time. For a fixed operation (such as a cell site) this doesn't matter. For portable operation during a microwave contest, it might be a limiting factor. A workaround for most of the delays is to keep the GPS-DO powered on all the time, even when driving between portable locations. So, I am packaging up the Thunderbolt with a battery operated power supply and integrated antenna.

The Thunderbolt (in this configuration) uses a total of about 10 watts, and needs +5, +12, and -12 volts DC. The easiest way to come up with a clean low-noise source of all three voltages is to use a laptop power brick. Conveniently, the TAPR group buy units came with such a power brick included. Not so conveniently, the power brick (of course) expects to be plugged into an AC wall outlet. A battery and a small inverter will do, and conveniently I happened to have an integrated battery+inverter unit on hand. The battery/inverter and the power brick take up most of the room inside the toolbox.

Since the Thunderbolt is designed to be integrated into a larger system, it doesn't have

any kind of status displays at all. Not even a power LED. It does have an RS-232 port that streams lots of status information. Trimble provides a Windows program to interpret the data stream, but that means hauling along a laptop just to monitor the GPS-DO. I'm not the first to run into this problem. James Patterson M1DST, among others, designed a solution, and provides a kit to make it easy to implement. His little circuit board interfaces a Netduino Plus 2 controller to the Thunderbolt and to a four-line LCD. He provides open source software for the Netduino to interpret the data stream and display status. I've integrated the LCD into the top of the toolbox. The controller and interface board are still unmounted.

I'd like to be able to hook up the GPS-DO to several different pieces of equipment simultaneously. This could be multiple microwave transverters, or a transverter and an IF rig, or some combination. I still need to rig up some kind of splitter and/or distribution amp and install multiple output connectors on the toolbox.

This rig hasn't seen any actual on-the-air service yet, but we did measure its frequency during the San Diego Microwave Group meeting at N6IZW's house. Even without being fully locked, it was very close to exactly on frequency: 9,999,999.99+ Hz for a nominal 10 MHz. As it adjusted itself, we caught it reading exactly 10 MHz to 12 significant figures. Not bad.



Frequency counter measurement of the Box of Frequency at Kerry N6IZW's microwave lab. Photo by W5NYV.



San Diego Microwave Group members inspect the Box of Frequency. Kerry N6IZW center, Paul KB5MU right.



Box Closed



Box of Frequency



Thunderbolt

Studio Photos by Paul KB5MU

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 4 September 2013, Palomar Amateur Radio Club presents a light hearted on-the-air demonstration of digital modes (including CW) and modern software for radio control, including Ham Radio Deluxe (HRD), and operation of multiple digital modes.

N1MM and HRD will be demonstrated. The basics of HRD Version 6.0 will be shown controlling a modern radio, the features of the HRD Logbook will be explored, and HRD-DM780 will be shown operating digital modes. PSK-31, PSK-63, PSK-125, Contestia, Olivia, JT-65 and JT-9 will be demonstrated.

Presented by Charlie NN3V.

Please join us at 7:00pm for socializing before the program.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

WE NEED A NEW TREASURER. SEE PAGE 3.

THE CLUB IS RAFFLING OFF A 2014 ARRL HANDBOOK. SEE PAGE 4.

OUR ANNUAL CLUB AUCTION WILL BE HELD THIS MONTH. SEE PAGE 6.

A PC TIP: USB HUB POWER SAVE DISABLE IS ON PAGE 7. THIS TIP OUTLINES A WAY TO DISCIPLINE YOUR SYSTEM.

PARC IS SUPPORTING THE FIRST EVER POWAY HOSTED SCOUT JAMBOREE ON THE AIR (JOTA). PARC IS SUPPLYING THE TRAILER, TOWER, A BEAM ANTENNA, AND MISCELLANEOUS EQUIPMENT. IN A MANNER SIMILAR TO THIS YEAR'S PARC FIELD DAY, RADIO MERIT BADGE DEMONSTRATIONS AND COURSES ARE PLANNED. PARC MEMBERS ARE INVITED. THE SETTING IS VERY EASY TO FIND WITH EASY ACCESS FROM INTERSTATE 15. SEE PAGE 8 FOR MORE DETAILS.

CALIFORNIA QSO PARTY IS COMING UP. DETAILS ON PAGE 9.

PARC PICNIC PHOTOGRAPHS ARE ON PAGE 10-11. THIS WELL-ATTENDED ANNUAL EVENT HAD FOOD, FUN, AND PRIZES.

SEE PAGE 12 FOR AN UPDATE ON AMATEUR RADIO AT THE MAKER FAIRE.

SEE PAGE 13 FOR INFORMATION ON JOINING TWO NEW CLUB EMAIL LISTS.

SEPTEMBER MEMBERSHIP MEETING SUMMARY CAN BE FOUND ON PAGE 14-15.

IF YOU ARE READING THIS IN ITS DIGITAL FORMAT, THEN CHECK OUT PAGE 15 FOR AN EMBEDDED VIDEO.



Save the Date

Club Meeting

2 October 2013

Annual Club Auction

Board Meeting

9 October 2013

Palomar Amateur Radio
Club board meeting at
7:30pm at W6GNI QTH.

Event

19 October

ARES Field Day

"WOW" Fold & Staple Workers for August SCOPE. We had a super turnout of "Old Timer" Workers!

The "TEAM": Al W6GNI & Kathy, Roni W6EPM, Sonny WA5ACE Art KB6YHZ, Jo KB6NMK, Toby Ashley, Terri N6UZH, Tyler KJ6ZLT, Dave KI6LKP, Tatthew Brewer, Teresa KJ6QQD. WOW !! Thank you, all! One would hardly believe that this Guy (Al – W6GNI) is retiring – Last Fold & Staple for me will be the January 2014 issue of the SCOPE to the Post Office!! (Sooner, if someone comes forth!)

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale

- 1) New Butternut HF9V 9 band vertical antenna (80, 40 30, 20, 17, 15, 12, 10 and 6 meters) and Butternut CPK Counterpoise Kit. Both antenna and CPK kit are unopened in original boxes. I am selling as a package only - \$475.00
- 2) New Diamond DPGH62 6 meter monoband base station antenna - 21 ft., 6 dB gain. Unopened in original box - \$100.00
- 3) Icom IC-208H 2 meter + 70 cm mobile radio. Excellent condition in original box - \$225.00.
- 4) Icom IC-7000 all mode HF/6 meter + 2 meter + 70 cm mobile radio. "Like new" condition with very little use. MB-62 mobile mounting bracket included. In original box - \$850.00.
- 5) Astron RM-35-M rack mount 25 amp linear power supply with meters. Excellent condition, low use - \$200.00

Contact Dean W6DBJ at 760-727-5954 or deanjacobsen@earthlink.net

For Sale

MFJ 269 HF/VHF/UHF antenna analyzer, new in box, never used, includes N to 259 adapter. MFJ price: \$390. Yours for \$300

MFJ 1275M Sound Card Interface, new in box, never used. Includes AC power supply, computer cable, audio cables. MFJ price \$110, yours for \$75

MFJ 949E Antenna tuner, 300 W, internal dummy load, balanced or unbalanced feedlines. Dual SWR/Power meters, 2 switchable coax connectors. Used but in excellent condition with manual. MFJ price: \$190. Yours for \$90

Ron K2RP K2RP@ARRL.NET or 760 436 8109

For Sale

Tektronix TM504, 4 slot compartment Powered main frame. \$80.00

Collins 302C-3. Forward and Reflected Watt Meter. 2Kw and 200 watts. Complete and working. \$80.00

Hewlett/Packard 403B. 1mv -300v RMS. No line cord. \$40.00

Collins 75-A4 receiver with matching Collins speaker,\$700. Very clean.

PeteK6JQE,pickupinSolanaBeach.1-858-755-4838

For Sale

Cushcraft MA5VA HF multi-band compact vertical. Covers 20-10 meters. \$100

Gary, W3LFR
858-335-0546

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors.

Insertion loss is .9 dBA per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

For Sale

The Alinco DJ-580 illuminated keypad button does not work.....No Backlighting of keypad, Transmit coverage is: 130-173.995 and 400-519.0995 with Mars/Cap Mods completed, Radio has no worn pads and all LCD display functions work as new, case looks like new, this radio comes with (1) EBP-20X 7.2 volt 1650Mah battery used only a few time before put away, (1) EBP-20N 7.2v 700Mah pack (not sure how long it will last) (2) EDH-11 dry cell pack (1) Yaesu dual band antenna and (2) Alinco EDC-24 Slow chargers and (1) DJ-580. I have checked this radio on simplex and our local repeater and it sounds fine, you would be hard pressed to find a radio in better condition than this one. excellent condition, As with all electronics this radio is sold AS IS, It will not be DOA, asking \$100 OBO, James 760-722-2797.

Important Notice New Treasurer Sought

by Dennis KD6TUJ
PARC Members,

At the December 2012 meeting a new board was elected to lead PARC and protect its interests and promote Amateur Radio.

Over the past 3 months the Board of Directors has attempted to reach the Treasurer but has received no response.

At the August 14th board meeting it was approved to bring before the members of Palomar a motion to remove the current Treasurer.

At the September meeting a motion was brought to the floor "To remove the Treasurer from office". The motion passed.

No nominations from the floor to fill the position of Treasurer were heard at the September meeting. The position is currently filled until December 2013 by a volunteer.

Upcoming ARES Events On the Club Repeater

The first event is the Miramar Air Show, October 4 and 5 2013. A PARC repeater will be used on an irregular basis for talk-in and occasional check-ins with at-home operators on standby in the event of a mass casualty incident.

We do not anticipate operating a formal Network at Miramar.

The second event is the ARES Field Day, to be held on October 19th, 2013. The 146.700 repeater, the 145.050 Packet node, and the 447.000 repeater (voice coordination) will be used on an irregular basis for digital communication. The 147.130 voice repeater will be used on a regular basis throughout the day for ARES Field Day activity coordination. This includes a few periods of formal network activity for the purpose of simplex mapping.

ARRL 2013 HANDBOOK RAFFLE

The ARRL is commemorating its 100 years by issuing a special ARRL Centennial Edition of The Handbook.

Features:

- Gold foil/embossed hardcover
- Personalized with your NAME and CALL SIGN
- Serial numbered commemorative edition
- Major new edition: components, new projects, latest technology
- CD-ROM included—a fully searchable digital edition

The Palomar Club will raffle a Handbook in October 2013 at the PARC monthly meeting. The raffle winner's Name and Call Sign will be embossed in gold letters on the Handbook's cover. Raffle tickets are \$1.00.

Raffle tickets are on sale now!

Don't miss an opportunity to own one of the standards of ham radio. Get your ticket immediately!



HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

Use A Fuse

by Paul KB5MU

It's a good idea to get power for your mobile rig directly from the car's battery. When you do, you must put a fuse in the positive wire, as close to the battery as possible. The inline fuse holder shown here is a good choice. Radio Shack sells a similar one (270-015) for just a few bucks.



Statement of Ownership, Management, and Circulation.

1. SCOPE 2. 0765-30 3. 9/10/2013

4. Monthly 5. 12 6. \$3.00

7. Palomar Amateur Radio Club

8. A. L. Donlevy 1691 Mesa Verde Dr. Vista, CA 92084-5324

9. A. L. Donlevy P.O. Box 73

Vista, CA 92085 Editor Michelle Thompson 5379 Carmel Knolls Drive, San Diego, CA 92130

10. Palomar Amateur Radio Club

P.O. Box 73, Vista, CA 92085-0073

13. SCOPE 14. Sept 2013

15A.159.42 160

15A1.3.33 3 15A2.158.58 159

15A3. 0 0 15A4. 5.50 5

15C. 167 167 15D1. 0 0 15D3. 0 0

15D4. 10 10 15E. 10 10 15F. 177 177

15G. 2 2 15H. 179 179

15I. 94.35 94.35 17. Printed OCT 2013

18. Signed A. L. Donlevy 9/10/13

October Membership News

Please don't forget us when your membership is due!! Some of the folks that may be due to reinstate – I hope! KJ6DTB, KC6YSO, N6VF, ZZ9GH, N6TO, W6DBJ, K6SML, K6PJH, N6TO, W6DBJ, KI6SRB, KD6PZT, NU6L, KG6TUL, KJ6LLU, WA6L, KJ7NT, KI6CSY, K6DRH, K6VG, KJ6ZQB, and there are even more! PLEASE! (Did you know your records are on the web site for info.)

The club is still looking for someone or a group of folks to take over the Fold & Staple task for each month, assembling and mailing of the SCOPE. The January Issue is my last one! Contact any member of the board! (It doesn't have to be done during the day – with the exception of delivering the issues to the Post Office. And that only takes 35 minutes if the paper work is in order.)

AI W6GNI

NiCd Lady Company

Grace Lloyd

N6WPA

grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs

20585 Camino Del Sol • Unit B
Riverside, CA 92508

800/906-6423

951/653-8868

Fax 951/653-5189

Your Complete Battery Source

Annual Club Auction

by Michelle W5NYV

It's almost October, and that means it's auction time. Come to the General Meeting on October 2nd and join the fun!

Where: The Safety Center

Any radio item new or used, working or not (boat-anchors included) will be tagged with the seller's information. Both buyers and sellers will register prior to the meeting. Please plan on arriving early to get a look at the auction items. Hams interested in bidding on items will be given a numbered card to hold up on items they would like to place a bid on. Any further questions can be directed to: board@palomararc.org

A suggestion heard at the September 2005 meeting: put those address labels you get in the mail to good use by bringing them to the auction. Instead of writing your name over and over, use the stickers instead.

If you have a wagon or other wheeled cart, please consider bringing it in order to transport items more easily into the building. The club will provide one wheeled cart for transporting equipment in and out of the building.

Start planning now for the treasures you'll want to bring and the treasures you'll be sure to find.

Room set-up starts at 5:30pm. As soon as the room is set up, sellers sign in and tag equipment. Bring your stuff early! 6:30 to 7:00pm buyers are registered (required!) and may view the offered equipment.

If you have questions about an item, this is the time to ask it. Inspect equipment before the auction so you know what you are bidding on (write its auction number down!) Auction begins at 7:00pm.

PARC receives 10% of the sale price and there is no other fee for buyers and sellers. Donations to PARC are accepted. All monies are paid to PARC. Seller(s) may set a written minimum bid on their items. Seller is responsible for removing any item(s) not sold. PARC does not guarantee the condition of any item sold.

PARC Auction Schedule

Room Setup	5:30pm
Sellers Allowed In	6:00pm
Buyers Allowed In	6:30pm
Auction Starts	7:00pm
Auction Ends	9:00pm

You don't have to be a PARC member to participate in the auction, so invite your friends to join in on the fun. Sellers will not be paid their money until all monies have been collected that evening, so bring a Self Addressed Stamped Envelope if you want the check mailed to you the next day, or pick it up at the next club meeting.

In previous years, the auction has been held outdoors (in a surprise move due to a conflict in room reservation), in the smaller EOC meeting room, and in the larger EOC meeting room, and offsite at other nearby locations.


RF PARTS
 COMPANY
From Milliwatts to Kilowatts™

Complete inventory for servicing amateur
 and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES
 Diodes • Relays • Trimmers • Capacitors • Heatsinks
 Transformers • Chokes • Combiners • Wattmeters • Books
 3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
 3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
 4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B
 Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA
760-744-0700
www.rfparts.com • orders@rfparts.com





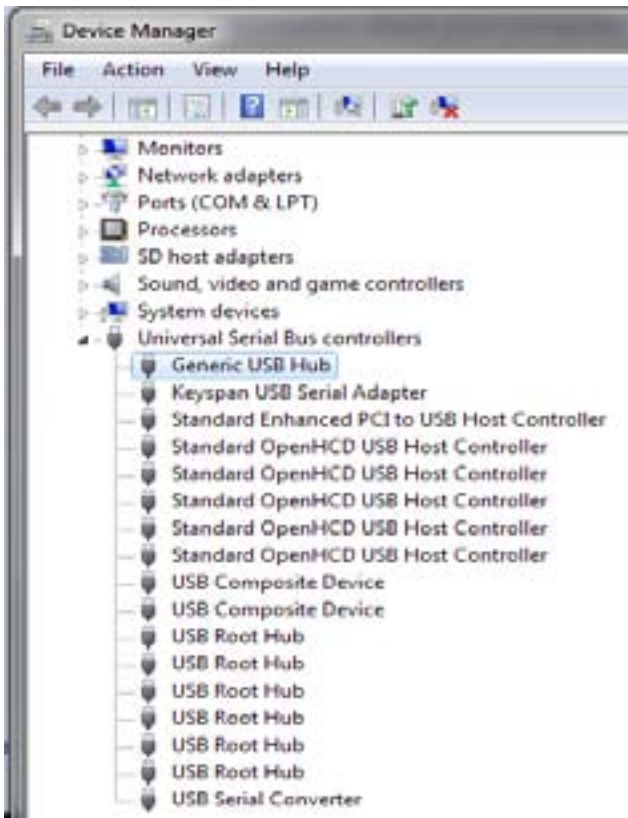
PC Tips from Dick K6KAL

USB Hubs 'Power Save' DISABLE:

Have you ever noticed that while your PC was running the disk light would come on for no apparent reason, chatter awhile and then stop. There are any number of things that could be going on, but here we will outline how to stop one of the more annoying tasks.

When windows is running normally, it will occasionally start a process that will check each 'USB Hub' on your system, to see if it can turn it off to save power. This is more noticeable on Laptops, which have a limited amount of battery life. If you were monitoring DX, and or had your favorite logging software running, or even worse, you are 'Contesting' and Windows decides to run the Power Save check, your software may hang for a moment or longer while it checks the USB Hub settings.

Well fear not, we have a solution that will keep windows from messing with us while we are having too much fun. In the last PC Tip, we located and used the Device Manager. Well here we go again. With the Device Manager screen in front of us look for the 'Universal Serial Bus controllers' tab. Well you might say that you have no Hubs attached, but guess again. There can be six or more 'Internal' USB Root Hubs in use.



An externally connected Hub will have a label like 'Generic USB Hub', while the internal hubs are labeled something like 'USB Root Hub'.

Now for the easy part.

First lets do the external hub. Right Click on hub and select 'Properties'. From there select the 'Power Management' Tab. Now the easy part. The top line should look like:

continued on PC Tips page 9

56th JAMBOREE-ON-THE-AIR

FOR SCOUT LEADERS



The Jamboree-on-the-Air, or JOTA, is an annual Scouting event that uses amateur radio to link Scouts around the world, across the nation, and in your own community. Held on the third full weekend of October each year, this worldwide jamboree requires no travel, other than to a nearby radio amateur's ham shack. Many times the hams will come to you by setting up at a Scout camporee, or perhaps they already have a ham shack at your council's camp. There are many ways to get your Scouts involved in JOTA.

Tell Me More

Scouts of any age can participate, from Cub Scouts to Boy Scouts and Venturers. Once at the ham radio station, the communication typically requires speaking into a microphone and listening on the station speakers. However, many forms of specialized communication can also take place, such as video communication, digital communication using typed words on the computer screen transmitted by radio, communication through a satellite relay or an earth-based relay (called a repeater), and many others. The exchanges include such information as name, location (called QTH in ham speak), Scout rank, age, and hobbies. The stations you'll be communicating with can be other Scouts across town, across the country, or even around the world! The World Scout Bureau reported that the 2012 JOTA had nearly 700,000 Scout participants from more than 13,500 amateur radio stations! A participant patch is available, as is a certificate/log sheet that can also be used to fulfill a Radio merit badge requirement.

When Is It?

The 56th Jamboree-on-the-Air is October 19–20, 2013. The official hours are from Saturday at 00:00 hours local time (right at midnight Friday) to Sunday 24:00 (midnight Sunday evening). So you've got the whole weekend to make JOTA contacts. You can also try out the "JOTA Jump Start" on Friday from 18:00 to 23:59 local time to test your setup.

How Can I Participate?

Contact your local Scout council and see what may already be planned in your area. You can also contact a local ham radio operator or a local amateur radio club. You can find a searchable database of clubs at www.arrl.org/find-a-club. This website is operated by the American Radio Relay League, the national association for amateur radio, which is cooperating closely with the BSA on JOTA and many other activities.

Your local club may be able to direct you to its planned JOTA activities. These can include ham stations set up at camporees or other events. Or, if there are no planned activities, you can either work with them to get something set up or arrange to visit a local radio operator's ham shack at a scheduled time to participate in JOTA.

Where Can I Find More Information?

Substantial JOTA resources are available online.

Go to www.scouting.org/jota, or scan this QR code with your smartphone, for the information provided by the Boy Scouts of America.



Information is also available from the ARRL at www.arrl.org/jamboree-on-the-air-jota.

Download a free QR code reader for your smartphone at scan.mobi.



Prepared. For Life.®

130-218
2013 Printing



Simply uncheck the 'Allow the computer to turn off this device to save power' option, then click OK.

Do this for all your external hubs, and the USB Root Hubs. This will do it. While your battery run time may be reduced ever so slightly, your running software will not 'Hang' while windows tries to save a few hundreds of milliamps.

In some PC tips to follow, I will outline a utility that will allow you to manage the device log and drivers that windows loads.

As always, EARS Club is not responsible for the Messing up of your computer by following any of these tips. Just blame it on your Fat Fingers...

California QSO Party

ADMIT ONE

**Here's Your Ticket To
The Most Popular
State QSO Party On
The Planet!**

October 5-6, 2013

1600 UTC Oct 5 to 2200 UTC Oct 6



**Grab a CA QSO or County
For That New Certificate!**

LoTW Triple Play
USA Counties Award
Worked All States
Worked All California Counties

Great Prizes & Awards!

Complete Rules & Info:

www.cqp.org

Northern California Contest Club

NCCC

Excellence in Amateur Radio Contesting

PARC Annual Picnic Photos by KB5MU



Ron K2RP surveys the scene.



Wires wires everywhere, and not a watt to drink.



Conrad and Dennis plot and plan.



Equipment in use at the picnic.



The drawing winner! Gerry Brown



Good food!



Lowering the tower after a hard day's fun.



Equipment in use at the picnic.



President Dennis KD6TUJ

IMPULSE *Electronics .com*

- Wouxun Radios and Accessories
- Powerpole Connectors
- Power Cables
- Coax Cable
- Coax Connectors
- Custom Cable Assemblies
- AGM Batteries and Accessories
- CTek & UPG Batteries Chargers
- Fuses and Holders
- Terminals and Splices
- Tools
- RF Industries Coax Adapters



(866) 747-5277

Maker Faire Meetup Report

by Michelle W5NYV

While many PARC members were at the September membership meeting, I was at the San Diego Mini Maker Faire Meetup, representing the club and working to get us a booth for demonstration and public outreach.

For an introduction to Maker Faires and the Maker Movement, please see the August Scope.

The meeting was on the evening of September 4th at High Tech High School in San Marcos. Having never been to the campus before, I was astounded at the quality of the facility, the ease of finding the right meeting location, and very impressed with the wonderful people that I met.

These Maker Faire meetups are public meetings called to plan and support the upcoming Faire. The meetings have a structure. At the beginning, there is a "meet the makers" session, where local makers present their projects, successes, failures, and plans.

First to speak was David Bergram, an engineering teacher at High Tech High. He has taught for 12 years, and took on the challenge of teaching robotics. His FIRST team (<http://www.usfirst.org/roboticsprograms/frc>) won the World Championship Chairman's trophy this past year. Each year, the FIRST challenge is different. This team had to build a robot that could play frisbee. Oh, and it had to climb a pyramid. The innovation that this team came up with that made all the difference in competition was the ability to pick up frisbees from the ground. Five team members spoke about the project and presented themselves extremely well.

The next Maker was Brandon Cohen, an environmental sciences teacher at High Tech High. He spoke about what younger students are doing. He coordinated a group of sixth graders that made a coloring book about undersea life. The students wrote the stories, researched the plants and animals, drew, and published. Significant learning took place with this student-lead project.

The next speaker presented an "Actually It Is Rocket Science" program that he was doing with his students. Pneumatic/hydraulic rockets with Arduinos were launched. The students prototyped the altimeters and other sensors, launched the rockets, recovered the rockets and the data, and wrote reports.

These and other student teams aim to present at the Maker Faire. With that, the Meet the Maker portion of the meeting closed.

Next was the meat of the meetup. Travis Good, the event coordinator, announced that the date and location for the Maker Faire would be December 7th at Bing Crosby Hall at the Del Mar Fairgrounds. As the date and location had been tentative for months, this update was received with great enthusiasm.

Travis presented several short videos about Maker Faire, and described for those that were unfamiliar with the movement what it was all about.

The planning group then broke out into working group sessions, including one for identifying event participants. I joined and spoke about Palomar Amateur Radio Club, our operating days, and how we, as a club, would love to participate in the Maker Faire. We were invited to join the Faire, and I volunteered to help however I could to find other amateur radio groups to participate.

Work with the other volunteers and organizers is coordinated online through a system called Basecamp.

San Diego Mini Maker Faire website is <http://sandiegominimakerfaire.org>

At the close of the meeting, I left in good spirits. After all, sharing our hobby with other like-minded individuals at such a positive and vibrant event would leave anyone in a great mood.

New Email Discussion and Announcement Lists

by Michelle W5NYV

PARC has two new email lists. The two new lists offer additional ways to stay up to date with your fellow amateur radio operators. Signing up is very simple.

Go to <http://www.palomararc.org/mailman/listinfo>

You'll see the following page.

palomararc.org Mailing Lists

Welcome!

Below is a listing of all the public mailing lists on palomararc.org. Click on a list name to get more information about the list, or to change preferences on your subscription. To visit the general information page for an unadvertised list, open a URL similar to this one: <http://www.palomararc.org/mailman/listinfo/your-list-name>. If you are a list administrator, you can visit [the list admin overview page](#) to find the management interface for your list.

If you are having trouble using the lists, please contact mailman@palomararc.org.

List	Description
Board	PARC Board of Directors
Meeting-remind	PARC Meeting Reminders
PARC-Announce	PARC announcements
PARC-Talk	PARC open discussion
Scope-notice	Scope Notice Email
Scope-pdf	Scope PDF Email
Senegal	Senegal DXpedition Planning List
Testlist	[no description available]

Click the link corresponding to the list you want to sign up for.

Fill in the form, and you're on the list.

PARC-Announce is a very low-traffic mailing list for announcements approved by the club. Expect only a few messages per month, maximum, including a notice about each club meeting. If you have an announcement you'd like to have published to this mailing list, please send your request to board@palomararc.org for approval

PARC-Talk is an open list for PARC members to discuss anything related to amateur radio and to the club. Please post in plain text. Don't attach files.

We will not use Scope-notice, Scope-pdf, Meeting-remind or any other mailing list for unsolicited messages or announcements.

Don't forget - PARC is on Facebook too!

Find us at <https://www.facebook.com/groups/194674987710/>



Palomar Amateur Radio Club

September Meeting Photos by KB5MU



PARC apparel



IQS staffs the goodie table, where deals can be had.



Our program presenter, Charlie NN3V



The digital modes demonstration (part of the program).



The PTZ camera demonstration by Paul KB5MU



Presentation boards about amateur radio, by PARC.



Video clip of the meeting (available in digital version of the Scope). Video by Don Johnson.



Don Johnson records it all! Thanks Don, for the A/V support.



PARC's secretary Jim NE6O taking notes.

Contest Report

All Asian DX Contest, SSB

Call: NX6T

Operator(s): N6KI WA2OOB N6ERD W2PWS

N6EEG WA3IHV

Station: NX6T

Class: M/S HP

QTH: CA

Operating Time (hrs): 36

Summary:

Band QSOs Mults

80:	8	6
40:	246	81
20:	206	86
15:	407	117
10:	0	0

Total: 867 290 Total Score = 249,110

Club: San Diego Contest Club

Comments:

Found overall condx to be very poor. No propagation to any Asia countries on 10 meters and 15 mtr QSB was very bad. We were down 100 Qs from last years results on 40 and 20 mtrs and down 150 Qs from last years 15 meter scores. We had some nice over the pole propagation to Western Asia countries on Friday night around 0400Z. We also missed many weak stations calling us as we had very bad line noise to the west of our QTH and will try to get local power company to quiet down the HV AC Lines !

2 K3s, ACOM2000A, 2 El 40 Yagi, 3 El SteppIR Yagi and 80 mtr dipole.

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 6:30pm on 2 October 2013, Palomar Amateur Radio Club presents our annual club auction.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

Sign up for the PARC Email Lists:

<http://www.palomararc.org/mailman/listinfo>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

OPERATING DAY

Sunday, November 24, 2013



FRY'S ELECTRONICS

150 South Bent Street

SAN MARCOS, CALIFORNIA 92069

9:30 AM to 5:30 PM

HOSTED BY PALOMAR AMATEUR RADIO CLUB

www.palomararc.org

contact Dennis KD6TUI (760) 672-0223

Come, learn, and operate on the ham bands at Fry's

70cm, 2m, 6m, 10m, 15m, 20m



Save the Date

Club Meeting

6 November 2013

Club Meeting

Board Meeting

13 November 2013

Palomar Amateur Radio
Club board meeting at
7:30pm at W6GNI QTH.

Event

24 November 2013

PARC Operating Day at
Fry's

Fold & Staple Crew October SCOPE

Al W6GNI & Kathy
Sonny WA5ACE Dave KI6LKP
Art KB6YHZ Janet Meyer
Jo KB6NMK

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale:

Moving before end of year. Unloading various unneeded equipment.

HW-16 with xtals. RX works (needs alignment), have not tried TX. With manual. \$75.00 OBO.

IC-706 RX works, does not TX. Some front panel damage at corner. \$85.00 OBO

Yaesu HT VX-5. 6-2 mtr, 440 MHz. Works very well, altho numbers/letters on some buttons worn off. \$70.00 OBO.

One of two MFJ Noise Canceling Antenna Systems, MFJ 1025/1026. With manual. Work very well. Take your pick. \$120.00 OBO

Two Vibroplex CW paddles, \$50 ea OBO.

Benchner straight key. Like new. \$85 OBO.

Two old CW straight Keys. Various headphones. Make offer.

Pse e-mail Joe, W6UDO, at joezeke43@gmail.com Pse put your call sign in subject line (if it's not in your e-mail address) in case your e-mail goes to spam. Tnx...

For Sale, Winter Clean Out

1. HP141T Spectrum Analyzer, 8554B (1.2 GHz) RF and HP8552A I.F. plug ins. Display OK but no test RF signal. \$75.

2. Radio Shack, Micronta, VOMs. 3 and 4" meter movements, Analog VOMs \$10 - \$15 each.

3. Tektronix 650, NTSC rack mount color monitor, A/B inputs, professional analog TV monitor. \$45.

4. 11.5 - 14.5 VDC, regulated P.S. 20 Amps. Acme Electric, approx. 7" X 7" X 16" long. \$35.

5. Bosch 11-202 demolition hammer. Needs work. Heavy duty, w/case Parts unit - \$35.

6. Paslode, Framing Nailer, 5325/80 compressed air operated. Needs work. Parts unit \$20

Call WB6IQS, John, 760-7Two7-Three876. Evenings / weekends. WB6IQS@Att.net(nospam).

For Sale

1) New Butternut HF9V 9 band vertical antenna (80, 40 30, 20, 17, 15, 12, 10 and 6 meters) and Butternut CPK Counterpoise Kit. Both antenna and CPK kit are unopened in original boxes. I am selling as a package only - \$475.00

2) New Diamond DPGH62 6 meter monoband base station antenna - 21 ft., 6 dB gain. Unopened in original box - \$100.00

3) Icom IC-208H 2 meter + 70 cm mobile radio. Excellent condition in original box - \$225.00.

4) Icom IC-7000 all mode HF/6 meter + 2 meter + 70 cm mobile radio. "Like new" condition with very little use. MB-62 mobile mounting bracket included. In original box - \$850.00.

5) Astron RM-35-M rack mount 25 amp linear power supply with meters. Excellent condition, low use - \$200.00

Contact Dean W6DBJ at 760-727-5954 or deanjacobsen@earthlink.net

For Sale

MFJ 1275M Sound Card Interface, new in box, never used. Includes AC power supply, computer cable, audio cables. MFJ price \$110, yours for \$75

Ron K2RP K2RP@ARRL.NET or 760 436 8109

For Sale

Tektronix TM504, 4 slot compartment Powered main frame. \$80.00

Collins 302C-3. Forward and Reflected Watt Meter. 2Kw and 200 watts. Complete and working. \$80.00
Hewlett/Packard 403B. 1mv -300v RMS. No line cord. \$40.00

Collins 75-A4 receiver with matching Collins speaker, \$700. Very clean.

Pete K6JQE, pickup in Solana Beach. 1-858-755-4838

For Sale

Cushcraft MA5VA HF multi-band compact vertical. Covers 20-10 meters. \$100

Gary, W3LFR
858-335-0546

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors.

Insertion loss is .9 dBa per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402

ARES Field Day Report

ARES Field Day was held on October 19th, 2013. The 146.700 repeater, the 145.050 Packet node, and the 447.000 repeater (voice coordination) were used on an irregular basis for digital communication. The 147.130 voice repeater was used on a regular basis throughout the day for ARES Field Day activity coordination. This also included a few periods of formal network activity for the purpose of simplex mapping.

PASS THE WORD!

A Technician Class course will be conducted at the San Luis Rey Valley United Methodist Church. The location is Just off Hwy 76, behind Home Depot at 5570 Old Ranch Road, Oceanside

We will meet on three consecutive Saturdays, 9 November, 16 November and 23 November from 10:30 AM to 3 PM. We plan on serving free hot dogs between Noon and 12:30.

To register, please e-mail: name, address, city, zip to Fred Atchley, ae6ic@cox.net

We are using Gordon West's Technician Class study guide which includes a CD. These can be purchased from Ham Radio Outlet (877-520-9623) for \$21 + S&H. Tell "Ron" that you are taking this class. The instruction is free. The exam follows the last class. The exam fee is \$5. Parking is free.

General and Amateur Extra Class exams may also be administered, But you must request them ahead of time.

See you there. 73, Fred, AE6IC, ae6ic@cox.net

Thank You, Al Donlevy

About 5 months ago, Al reported that he (W6GNI) will be retiring from the monthly project - Known as Fold & Staple - at year end, December 2013. He have been doing this "Service" for the club for well over 12 years. It is well time for someone else to take over!

Al has recently acheived 80 years of participation on this planet! For the past 12 years his family has kept the last Wednesday of each month free for the SCOPE mailing effort.

Palomar Amateur Radio Club thanks him for his effort, service, and commitment.

At this time, PARC needs to plan for his retirement from this monthly exercise. As the present board members know, he has brought the subject up several times. This has been noted at several Club meetings as well.

Here are the items required for Palomar Amateur Radio Club mailing of the SCOPE newsletter.

Preparations for each months SCOPE:

1. Advise the Editor how many copies to print.
 - Number for mailing to members.
 - Number for the Post Office. (Generally 1)
 - Number of extras to print.
2. Currently we are using a printer in Vista. Selected by price, service, and location.
3. Pick up printed SCOPE's from printer. (Pay printer, or have made some arrangement.)
4. Organize - What we have been calling "Fold & Staple". (A small committee is good!!)
 - A. Insert staples in the SCOPE. B. Fold to size. C. Put on plastic stickers.
 - D. Attach Address labels. E. Package by area codes (Currently have 3) Out of area get 1st class envelopes.
 - F. Take Issues, and Paperwork to Post Office, Await acceptance by Postal Service. Pay for mailing (\$20. + -).(Usually takes 30 – 50 minutes at P.O. If all is in order, and there is not a line in front of you.)

Other items to be concerned about.

- A. P.O. Requires count submitted by postal Area. Also, Volume Percent of advertisement contained, and a "free copy" for them.
- B. In October issue, the number of issues, and details of certain items for the year, through the September issue for the year, from the previous October year.

These items are not too difficult if records are kept during the year.

The above listings may appear troublesome, however the Membership Person can be very helpful, and share some of the work.

Al writes, "As long as I am involved in "Membership", and am able: I can provide the list of members to be mailed too (One of the items the Post Office requires.), sorted by zip code, and at least for some time, the stickers containing addresses, also sorted. These items would be mailed to whoever is doing the major portion of the work in the week prior to their need. I will pass along anything that I have been using as may be useful. I will "donate" the unit that helps align the SCOPE for installing the staples. (Personal property, and not expecting it back.). The club has a small box that contains address stickers to mark the items for the Post Office, some old hand staplers, etc,

Also, I have a book that contains year to date info for 2013. The new person will, no doubt, quickly improve many ways of doing things!"

HAM RADIO OUTLET

H
R
O

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

NiCd Lady Company

Grace Lloyd
N6WPA
grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs
20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/908-6423
951/653-8888
Fax 951/653-5189

Your Complete Battery Source

November Membership News

Please don't forget us when your membership is due!! Some of the folks that may be due to reinstate – I hope! K6VG, KJ6ZQB, KJ6TWJ, KQ6B, N5KKW, KB6CUT, KE6SDF, KF6GOF, KG6ETI, KG6TTZ, KF6POM, KJ6STF, M6MTS, KJ6JMJ, WA6GHW, KC6VDX, W9EN, and there are even more! PLEASE! (Did you know your records are on the web site for info.)

The club is still looking for someone or a group of folks to take over the Fold & Staple task for each month, assembling and mailing of the SCOPE. The January Issue is my last one! Contact any member of the board! (It doesn't have to be done during the day – with the exception of delivering the issues to the Post Office. And that only takes 35 minutes if the paper work is in order.)

AI W6GNI

Raffle Winner

At October's meeting, the Club raffled off a 2014 ARRL Handbook that commemorates the 100th year of the ARRL. The Handbook will be engraved in gold lettering with the name and call sign of the raffle winner.

We are happy to announce that the winner was Fred May, N2HLG.

73 de NN3V
Charlie

Boy Scout Jamboree and PARC

PARC Members Make Boy Scout Jamboree Over the Air a Big Success in 2013.

The Jamboree-on-the-Air, or JOTA, is an annual Scouting event that uses amateur radio to link Scouts around the world, across the nation, and in our own community. JOTA began in 1957 and 2013 marks the 56th year of JOTA. Scouts of any age can participate, from Cub Scouts to Boy Scouts and Venturers. Once at the ham radio station, the communication typically requires speaking into a microphone and listening on the station speakers. In 2013, over 370 Scouting units all across the United States participated in JOTA.



In the San Diego Imperial Boy Scout Council, JOTA 2013 was held in Poway on October 19th at the Saint Michael's School. Scouts from eight different districts across the county were represented. PARC members and the PARC trailer and resources made the event a great success. Scouts contacted 29 different stations, including one in Spain, three other JOTA stations, and one University club station.



Cub Scout over the Air with Charlie NN3V6

Through the efforts of the Poway radio amateurs and Kevin Walsh KK6FRK, this was the first public amateur radio event in Poway in a long while.

Special thanks to PARC for the efforts of Dennis Baca KD6TUJ, Conrad Lara KG6JEI, and Charlie Ristorcelli NN3V for setting up the HF station and associated equipment, and to the members of PARC for donating a VHF/UHF handy-talkie to motivate scouts in pursuit of an amateur radio license.

PARC radio operators worked with adult Scout leaders to teach a Radio Merit Badge class for Boy Scouts and an Introduction to Radio for Cub Scouts. They set up radio equipment and the PARC antenna at the Saint Michael's School and taught scouts how to use the radios to talk to other Scouts in Scouting units located all over United States.

The Scouts learned how radio waves travel, how they carry information, the electromagnetic spectrum – or frequencies, antennas, electronics, basic radio equipment, how to get a radio license, safety, and preparing for an emergency.

The Radio Merit Badge course reached the goal of 25 Scouts completing the merit badge

**RF PARTS**
COMPANY
From Milliwatts to Kilowatts™

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com





Boy Scouts earning Radio Merit Badge with Roger Hort KK6CTI



Teaching Radio Safety - Bob Shoemaker KG6EJW



Cub Scouts Giving Thumbs Up to Radio

requirements, including radio contact thanks to Jeariene Bacon, Gayle Olson K6GO, Pat Herndon KC6S , Roger Hort KK6CTI, Bob Shoemaker KG6EJW , Mike Binder NA6MB, and David Haessig KK6CTF.

Cub Scouts (and their parents) built a breadboard radio kit at the component level with transistors, resistors, capacitors, diodes, and rheostats. Thanks to Bob Coleman for getting the Scouts signed in and directing parents. The Cub Scouts also talked over the air to make contacts over HF and 2 meters. Thanks to Thurston Watson in helping with the radio kits, and corralling the Cub Scouts. It is not clear who had more fun – the parents or the Cub Scouts – but hey – their radios worked!

The use of radio communications for emergency preparedness and emergency response was one of the themes for the JOTA in Poway. The event featured a solar powered mobile radio emergency response command post on display for parents and Scouts to learn about. The Poway Neighborhood Emergency Response Corp (PNEC) generated a lot of interest in amateur radio with their map of Poway that showed amateur radio operators in each neighborhood of Poway ready to stand tall in the event of an emergency event.

Thanks to Bart Tuttle KK6CSK and Terri Sorensen of PNEC for reaching out to parents to inform them about the role of amateur radio in community emergency response, and to Robert Todd KJ6RET for showing off his solar powered trailer to Scouts and parents. Thanks again to Conrad Lara KJ6JEI and Dennis Baca KD6TUJ for bringing the PARC trailer over to Poway. The PARC antenna made it possible to make over 35 HF contacts at 29 stations all over the US, as well as England and Spain. Six other Boy Scouts in La Mesa completed their merit badge radio talk time requirement by talking to us in Poway thanks to Robert Todd KJ6RET and Brian Tag AG6CF.

The Scouts and parents are really happy and everyone had fun. Thanks again to PARC and all who made JOTA 2013 successful for Poway and to the Boy Scouts across San Diego County.

PARC in the Community

Greg KI6RXX took lead in talking up and demonstrating amateur radio at Oceanside Fire Prevention Day at Station 1, Nevada and Pier View in Oceanside on Sunday, October 6, 2013. We were invited by Oceanside CERT, Jo N6JO. This is the start of a cooperative effort. Photos by Dennis KD6TUJ.



SOTA, The Summits on the Air Program, in San Diego

Hiking + Radio = SOTA

Introduction to SOTA

by Drew Arnett KB9FKO

For me, the SOTA, Summits on the Air, program, is either an excuse to go hike or to play radio. I'm never really quite sure which. From SOTA, I've learned some interesting and sometimes flavorful vocabulary from the UK version of the English language. And I've learned about mountaineering gear that isn't in mainstream use in the USA. Have you ever heard of a bothy bag?

The Summits on the Air program originated in the UK in 2002. It is "an award scheme for radio amateurs and shortwave listeners that encourages portable operation in mountainous areas." Activators are the ones on the hilltops (and sometimes in the wind, snow, and rain). Chasers are the ones who make contacts with the activators. SOTA has an online database where contacts can be recorded and points kept track of for chasing and activating awards. The SOTA database contains lists of summits for different associations from around the world. (Examples: W6, GW, OH, HL, VK2) An association manager puts together the summit lists for the association and publishes an ARM, or association reference manual, with the summit lists and special rules and useful information for the association.

The W6 association went live on July 1, 2009. Currently this association has 16 regions and 3716 qualifying summits. San Diego County, the area of my interest, contains summits from at least 5 of these regions. As DXCC provides an excuse to learn some geography, reading the W6 ARM will provide an excuse to learn some geology.

TABLE: Regions in the W6 Association

Region (code)	Region (Name)	Has summits in SD county?
SN	Sierra Nevada	n
CT	Transverse Ranges	y
CN	Northern Ranges	n
CD	Desert Ranges	y
CC	Coastal Ranges	y
WH	White Mountains	n
SS	Southern Sierra	n
NW	Northwestern Ranges	n
NS	Northern Sierra	n
NE	Northeastern Ranges	n
IN	Inyo Mountains	n
SD	Southern Desert	y
NC	Northern Coastal Ranges	n
ND	Northern Desert	n
SC	Southern Coastal Ranges	y
CV	Transverse Ranges	n

The summits are given reference numbers and points values in the ARM.

TABLE: A Few Example San Diego Summits

Reference	Name	Points
W6/CT-020	Palomar Mtn.	6
W6/SC-115	El Cajon Mtn.	2
W6/SC-214	Iron Mtn.	2
W6/CC-014	Cuyamaca Peak	6
W6/SC-338	Black Mtn.	1
W6/SC-352	Mt. Helix	1

See below for the example summit info pages for Palomar and Black Mountain.

Activating!

In a nutshell, to activate a summit, you get to the activation zone (80 vertical feet of the summit in the W6 association) under your own power and using portable gear and power. To get activator points, you need to make at least 4 QSOs exchanging callsigns, reports, and the summit reference. Points are awarded to you based on the summit and possibly a seasonal bonus. Seasonal bonuses, defined in the ARM, are for things like desert peaks in the summer and the high sierra in the winter.

How does it go? I won't go into the getting there part. If you're not familiar with getting to these summits, there are plenty of resources to help you learn the San Diego county back country and how to travel there safely. The radio part? Amazing! My first time out was a shakedown cruise up Black Mountain in the PQ neighborhood. I worked 15 and 20 meters CW. Once I was spotted, the pileup was something else! The chasers were courteous and polite which probably was helpful for my rusty CW skills. The best DX that day was Nova Scotia which was cool.

Activation gear

As you would imagine, gear runs the gamut. FT-817s and KX3s are popular. Some carry FT-857 or FT-897 class rigs and sometimes large batteries. KD1JV's ATS series of rigs and the successor MTR design (a SOTA exclusive!) are popular. Some have pruned down their entire setup to very light weight. For example, one ham who carries his rig while trail running! Some activate VHF FM only with an HT with a

IMPULSE Electronics .com

Wouxun Radios and Accessories

Powerpole Connectors

Power Cables

Coax Cable

Coax Connectors

Custom Cable Assemblies

AGM Batteries and Accessories

CTek & UPG Batteries Chargers

Fuses and Holders

Terminals and Splices

Tools

RF Industries Coax Adapters



(866) 747-5277

rubber duck or maybe a portable collinear or yagi for gain. Some operate microwave. And many are on HF both phone and CW.

I've been using the gear shown in the photo with a 20' telescoping fiberglass fishing pole. The gear shown includes an ATS3B (designed to fit in an Altoids tin), band modules for the ATS3B, 8xAA batteries, surplus straight key, head phones, BNC patch cable, ZM-2 antenna tuner, and wire for end fed antennas on wrapped on kite winders. The whole thing goes in a tupperware container in a daypack with the fishing pole. The ultralight hikers can see lots of potential to shave the weight of this gear. Even so, I usually carry more weight in water than radio gear in the summer time.



Here is a photo from KH2TJ's Mt Helix activation.



Self spotting is frequently used by activators. In other parts of the hobby this may be forbidden, but it's OK if you want to do this in SOTA. There are a variety of ways to do this: sotawatch.org, custom smartphone apps, RBN, APRS2SOTA, and the SMS gateway to name a few.

Chasing!

In a nutshell, to chase a summit, you work the activator from the creature comforts of your home. Points are awarded to you based on the summit.

After a number of activations and a now developed sense of appreciations for the chasers, I decided that I should give a little back. So far, I've chased and managed to work about 5 activations on HF phone and CW. I was a bit surprised. I thought with the spots that it would be easy to chase. Not so. The ops would move from band to band, or be offline for a bit changing the antenna setup, or have to "QRT STORM NR NOW"!

You can try tuning in during an activation and see what it sounds like. Spots on sotawatch.org would be the best bet. A variety of frequencies are used, and common practices vary depending on what part of the world the operator is in. In North America, it's common to operate in the neighborhood of QRP or HFPAK calling frequencies. (See <http://www.qsl.net/kd9kc/frequencies.html> for example.) On FM, simplex frequencies are used, so definitely look for 146.52. Repeater contacts aren't allowed, but some of use SD SOTA activators may jump on a repeater to solicit contacts!

S2S

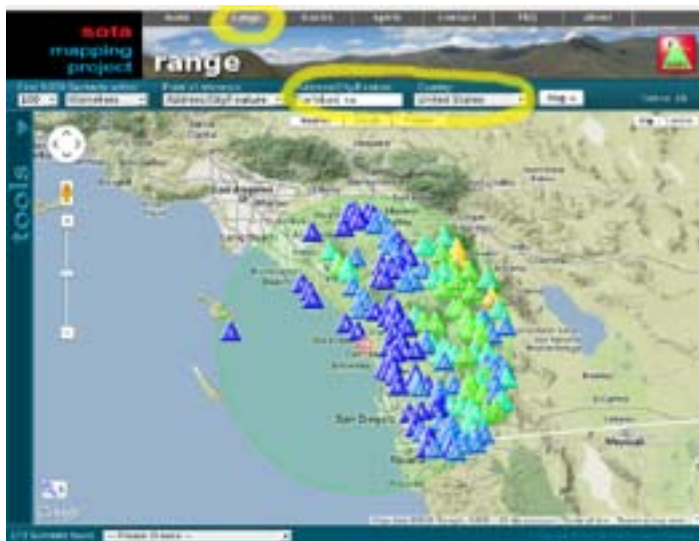
Summit-to-summit, or S2S, is the holy grail of SOTA. In this case, you are both activating and chasing! It is considered good form if you are a chaser to facilitate S2S contacts or at least standby for them.

SD SOTA

San Diego county summits have seen activations for a while now. I finally started activating this year after following the program for a while. A mailing list has been formed for SD SOTA. So far, 5 subscribers are on the list, all of whom have activated summits in SD this year.

More activators in SD would be very welcome. There are many eligible summits here, most of which haven't been activated, yet. Chasers from across the country and even DX chasers would be grateful for the chance to garner more points. Posting an activation alert to sotawatch.org is very helpful, too.

Due to the large number of regions, the best bet for finding eligible summits is to use the mapping feature found at sotawatch.org and use the RANGE tab to find all of the summits near



some location in SD.

SD chasers would be even more welcome. N0PCL worked South Park with an HT from Cucamonga Peak. But, otherwise, I haven't heard of any VHF FM chasing here. Sure, activators could jump on a repeater and drum up folks to QSY to simplex for a valid (non-repeater) SOTA contact. And, maybe that would be the best mode of operation. But, from lower locations, we are able to drum up a fair amount of VHF FM simplex during the VHF contests. Is it possible to do so with SOTA?

Activation alerts and spots found on sotawatch.org are very helpful for chasing.



If you have any questions about SOTA, chasing, activating, resources for hiking in San Diego, or you are interested in joining the SD SOTA mailing list, please contact me.

Resources to learn more

Look for activation reports and photos and many other types of resources for SOTA online. A few are listed here.

web - main links

<http://www.sota.org.uk> the main page

<http://www.sotawatch.org> the main resource page for spots, alerts, mapping, database, summit information, message board, merchandise. See the monthly SOTA news on the reflector!

<http://groups.yahoo.com/neo/groups/nasota/info> North America SOTA mailing list

video

WG0AT's youtube channel: <http://www.youtube.com/goathiker>

If you just watch one, watch: Eagle Cap Wilderness Area (Part II) - East Peak/OR for Summits on the Air (SOTA) <http://www.youtube.com/watch?v=TML1JKP12WA&feature=c4-overview-vl&list=PL4810473C296E0824>

The first part is also good: Eagle Cap SOTA Expedition

<http://www.youtube.com/watch?v=9ZviwMrTSRw&feature=c4-overview-vl&list=PL4810473C296E0824>

slides

N7UN's presentation (see files area in Yahoo group NASOTA)

handout

N7UN's brochure (see files area in Yahoo group NASOTA)

web - other interesting links

<http://www.qsl.net/kd9kc/index.html> one activator's suggestions

<http://www.wota.org.uk/> interesting pictures

<http://peaklist.org/CAMtnatlas/CAMtnatlas.htm> California mountain atlas with prominence lists and maps

books on hiking

Afoot and Afield: San Diego County by Jerry

Schad

Mountaineering: The Freedom of the Hills by
The Mountaineers

Wilderness Basics by the San Diego Sierra Club

About the author

Drew Arnett KB9FKO

Drew earned his Novice and eventually Advanced class ticket at W9YH where he also earned his BSEE. Today he does a little bit of everything electrical engineering related. After a period of inactivity, he has resumed his amateur radio interest including SOTA (of course), QRP, VHF and HF contesting, and the more technical aspects of the hobby. a.arnett@ieee.org

Special thanks to the other members of the SD SOTA list for ideas and editing and contributing to this article: N0PCL, KH2TJ, KG6AOV, and AG6LG.

Minutes

Palomar Amateur Radio Club

Board of Directors Meeting
SEPTEMBER 11, 2013

President Dennis Baca KD6TUJ called the meeting to order at 19:34 pm at the home of Al Donlevy W6GNI. In attendance were:

President: Dennis Baca, KD6TUJ
Vice-President: Joe Petersen, K6JPE
Secretary: Jim Cooper, NE6O
Director #1: Don Johnson, WD6FWE
Director #2: Rich NI6H
Repeater: Conrad Lara, KG6JEI
Membership: Al Donlevy, W6GNI

SECRETARY

- Jim, NE6O submitted the minutes for the August BOD meeting for review and correction.
- Several corrections were suggested and included.
- Conrad KG6JEI moved to accept the minutes as corrected. Seconded by Joe K6JPE. Passed unanimously.
- Meetings from the General Meeting (see attachment at end) were reviewed

CONFERENCE CALL SPECIAL MEETING

- August 28, 2013 conference call. Conrad's notes are attached at the end of this document.
- Special meeting of the board called 8pm

by Dennis to discuss special event station at Oceanside Harbor days.

NEXT MEETING

- The October meeting will be the auction at the Safety Center
- Setup begin at 5:30 pm
- Sellers can start at 6:00 pm
- Buyers can start looking at 6:30pm
- Short meeting starts at 7:00pm, followed by the auction
- Bob AK6R will be the auctioneer.
- Will try to be done by 10pm. Room must be restored to previous condition.

MEMBERSHIP

- Al, W6GNI reports that our current membership is at 284.

REPEATER

- Lots of testing of 146,700 digital duplex repeater
- Possible interference
- Other repeaters are doing fine
- Power reset a couple weeks ago. One was due to power pole replacement. The other is not known.
- Need update repeater etiquette guide. Several people have timed out by not waiting for beep.
- W6SH CERO requests that one member of PARC join to help defer the cost of Internet connection.
- Rich NI6H moves that we get one \$30 membership to join the CERO club who is providing an Internet gateway for WinLink. Seconded by Jim NE6O. Motion does not carry.

OPERATING DAY AT FRY's SAN MARCOS

- Planned for Sunday, November 24, 2013
- Planning still in progress

SAN DIEGO MINI-MAKER FAIR

- December 7, 2013 in Bing Crosby Hall at the Del Mar Fair

POWAY AMATEUR RADIO SOCIETY

- October 19 & 20 Jamboree on the Air

Steve Early

- Miramar Air Show repeater request October 4 & 5, moved by Conrad the use of 147.130 for the duration of non-exclusive use during the Air Show. Seconded by Don. Passes unanimously
- October 19 use of repeater for ARES "Field Day" request 146.700, 145.050, 447.000, on a non-exclusive basis. Also asking for a two-meter repeater on a regular basis from 8am to 5pm. Moved that 130 used for voice. Moved by Don that the list of repeaters and 147.130 to be used by ARES FD October 19, 2013 8am to 5pm and

that ARES send back to PARC signal strength mapping if possible. Seconded by Joe. Motion PASSES.

Use of Scope List for Ham Announcements

- There are issues with using the Scope list for announcements. This is an opt-in list only for the Scope.
- Ask Paul to start an opt-in mailing list to meet the intent that Charlie wanted.
- A point was brought before the board in reference to club bylaws section 7 subsection j did not allow other non-announced actions to occur. The motion for the announcement did not have prior notice, therefore the motion was not proper. However, the intent was taken and acted on.

TREASURER

- David Ochs has volunteered to recover the club books and get them back into order.

Next month's meeting will be at the house of Al Donlevy, W6GNI and will start at 7pm.

Unanimous motion to adjourn at 22:20 pm.

Respectfully submitted

Jim Cooper, NE6O

Secretary, Palomar Amateur Radio Club

DRAFT MINUTES FROM SPECIAL BOARD MEETING AUG 28th 2013

Present on the conference call:

Dennis Baca KD6TUJ

Conrad Lara KG6JEI

Rich Lippucci NI6H

Joe Peterson K6JPE

Al Donlevy W6GNI

Don Johnson WD6FWE (Late: 20:02)

Motion by Rich Ni6H that we extend the funds and try and get a space locked down for the Oceanside Harbor Days not to exceed \$150 to the Chamber of Commerce. Second by Don WD6FWE. The motion carried.

Meeting adjourned at 20:10

General Meeting 2013-09-04

Motion by Charlie NN3V

"Effective immediately, any member of the club that has an input that facilitates amateur radio and is of an urgent nature can send that request to the board and it will be sent out to the scope list."

Discussion

Call for the vote by Jerry K6GAB

Seconded by KC6YSO

Motion carried by voice vote of the members attending. 58 members signed in, greater than 10 percent of the club membership

Motion by Charlie NN3V

"Motion to remove the treasurer in accordance with the club bylaws and fill the position in accordance with club bylaws."

Seconded by K6JPE

Motion carried by voice vote of the members attending. 58 members signed in, greater 10 percent of the club membership.

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 6 November 2013, Palomar Amateur Radio Club presents a program and meeting.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

Sign up for the PARC Email Lists:

<http://www.palomararc.org/mailman/listinfo>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Membership Meeting

The December Meeting is Palomar Club's annual social. Come rejoin fellow hams with adventures of the contact that did not get away. How you pulled them from the noise? Let us know of the latest project. Are you going to get those new toys? Bring some goodies to share. No one's going to report to your doctor. Let's recap the year and make plans for projects and fun for next year. We will bring the coffee pot!

Dennis KD6TUJ

PARC 2013 Field Day Results.

Well, the results of the 2013 Field Day are in. For full details, see the article starting on Page 72 of December's QST magazine.

The article seems to borrow a page from the explanation that ham Radio is a mash up, as it introduces the concept of Field day Saturday morning with explanation that Field Day is all about "...making adjustments. Plans go awry, equipment malfunctions,....gear is repaired, ... generators fire up again....keep on making QSOs".

That indeed is the essence of ensuring our skills keep us serving as the "communication system that never fails".

So how did PARC do? We entered as 5A category. There were 62 entrants nationwide, and PARC scored 10,370 points to finish fifth in the nation.

Start making plans for Field Day June 27-29, 2014.

Hope to see you at Field Day. (Oh. Did I say Field Day is not a contest? Remember that).

73 de NN3V
Charlie



Come support PARC on December 7th at...
<http://sandiegominimakerfaire.org>



Save the Date

Club Meeting

4 December 2013

Club Meeting - Potluck
Social

Board Meeting

11 December 2013

Palomar Amateur Radio
Club board meeting at
7:30pm at W6GNI QTH.

Event

7 December 2013

PARC Operating Day at
Maker Faire San Diego,
Del Mar Fairgrounds,
Bing Crosby Hall

Fold & Staple Crew, November SCOPE included Al W6GNI & Kathy, Sonny WA5ACE, Jo KB6NMK, Art KB6YHZ, Janet Meyer

The club is still looking for someone or a group of folks to take over the Fold & Staple task each month, assembling and mailing the SCOPE. As noted, the January Issue is my last one!

Contact any member of the board! (It doesn't have to be done during the day – with the exception of delivering the issues to the Post Office. And that only takes 35 minutes if the paper work is in order.)

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale:

Moving before end of year. Unloading various unneeded equipment.

HW-16 with xtals. RX works (needs alignment), have not tried TX. With manual. \$75.00 OBO.

IC-706 RX works, does not TX. Some front panel damage at corner. \$85.00 OBO

Yaesu HT VX-5. 6-2 mtr, 440 MHz. Works very well, altho numbers/letters on some buttons worn off. \$70.00 OBO.

One of two MFJ Noise Cancelling Antenna Systems, MFJ 1025/1026. With manual. Work very well. Take your pick. \$120.00 OBO

Two Vibroplex CW paddles, \$50 ea OBO.

Benchner straight key. Like new. \$85 OBO.

Two old CW straight Keys. Various headphones. Make offer.

Pse e-mail Joe, W6UDO, at joezeke43@gmail.com Pse put your call sign in subject line (if it's not in your e-mail address) in case your e-mail goes to spam. Tnx...

For Sale, Winter Clean Out

1. HP141T Spectrum Analyzer, 8554B (1.2 GHz) RF and HP8552A I.F. plug ins. Display OK but no test RF signal. \$75.

2. Radio Shack, Micronta, VOMs. 3 and 4" meter movements, Analog VOMs \$10 - \$15 each.

3. Tektronix 650, NTSC rack mount color monitor, A/B inputs, professional analog TV monitor. \$45.

4. 11.5 - 14.5 VDC, regulated P.S. 20 Amps. Acme Electric, approx. 7" X 7" X 16" long. \$35.

5. Bosch 11-202 demolition hammer. Needs work. Heavy duty, w/case Parts unit - \$35.

6. Paslode, Framing Nailer, 5325/80 compressed air operated. Needs work. Parts unit \$20

Call WB6IQS, John, 760-7Two7-Three876. Evenings / weekends. WB6IQS@Att.net(nospam).

Continued next page

For Sale

1) New Butternut HF9V 9 band vertical antenna (80, 40 30, 20, 17, 15, 12, 10 and 6 meters) and Butternut CPK Counterpoise Kit. Both antenna and CPK kit are unopened in original boxes. I am selling as a package only - \$475.00

2) New Diamond DPGH62 6 meter monoband base station antenna - 21 ft., 6 dB gain. Unopened in original box - \$100.00

3) Icom IC-208H 2 meter + 70 cm mobile radio. Excellent condition in original box - \$225.00.

4) Icom IC-7000 all mode HF/6 meter + 2 meter + 70 cm mobile radio. "Like new" condition with very little use. MB-62 mobile mounting bracket included. In original box - \$850.00.

5) Astron RM-35-M rack mount 25 amp linear power supply with meters. Excellent condition, low use - \$200.00

Contact Dean W6DBJ at 760-727-5954 or deanjacobsen@earthlink.net

For Sale

MFJ 1275M Sound Card Interface, new in box, never used. Includes AC power supply, computer cable, audio cables. MFJ price \$110, yours for \$75

Ron K2RP K2RP@ARRL.NET or 760 436 8109

For Sale

Tektronix TM504, 4 slot compartment Powered main frame. \$80.00

Collins 302C-3. Forward and Reflected Watt Meter. 2Kw and 200 watts. Complete and working. \$80.00
Hewlett/Packard 403B. 1mv -300v RMS. No line cord. \$40.00

Collins 75-A4 receiver with matching Collins speaker, \$700. Very clean.
PeteK6JQE, pickup in Solana Beach. 1-858-755-4838

For Sale

Cushcraft MA5VA HF multi-band compact vertical. Covers 20-10 meters. \$100

Gary, W3LFR
858-335-0546

For Sale

Four rolls of Mil-C-18/ UG218. The rolls are about 140 feet long with N connectors.

Insertion loss is .9 dBa per 100 feet at 150 mHz. \$250.00 per roll or \$800.00 for all of them.

Glenn
N6JAI
619 654 1402



Wouxun Radios and Accessories
Powerpole Connectors
Power Cables
Coax Cable
Coax Connectors
Custom Cable Assemblies
AGM Batteries and Accessories
CTek & UPG Batteries Chargers
Fuses and Holders
Terminals and Splices
Tools
RF Industries Coax Adapters



(866) 747-5277



CQ Worldwide DX Contest, CW

Call: NX6T

Operator(s): N6KI WQ6X N0DY K4RB NN6X
N6EEG

Station: NX6T

Class: M/2 HP

QTH: CA

Operating Time (hrs): 46.5

Summary:

Band QSOs Zones Countries

160:	21	9	8
80:	222	21	47
40:	1097	35	118
20:	514	36	116
15:	580	35	114
10:	582	32	89

Total: 3016 168 492 Total Score = 5,473,380

Club: San Diego Contest Club

Comments: Very good condx from start til Sunday morning when A index shot up to 8 and 10 and 15 mtrs didn't play as well as Saturday afternoon. Had a fun time running Multi-Two so our multi-op group were kept busy for all but 1.5 hours of contest. This was most QSOs we have done from our portable site and hope to keep improving on station setup and antennas in future. 70 ft Tower Trailer (Thanks N6OX !) with 2 El 40 Yagi @78 ft, 3 El SteppIR at 70ft, 80 and 160 mtr Inv V Dipoles. 40 ft Tower Trailer with 2 El 40 Yagi at 48 ft, 3 El SteppIR @40 ft. 2 K3 radios, 2 ACOM 2000A Amps.

73 de Dennis N6KI



Boy Scout Nathan Graff (center), a new ham, is shown receiving his very own HT from Fred Atchley (left), AE6IC, while dad Jared Graff (right), also a new ham, smiles proudly.

Nathan earned his Radio merit badge at the PARC Field Day site last June along with 26 other scouts.

PARC not only hosted the Radio merit badge class, but promised the first three of those scouts to earn their ham ticket within a year would receive an HT. Nathan passed the Technician class exam on 23 November and is the first scout to claim his very own HT. So, by the time you read this Nathan will not only have his call sign but will be on-the-air! Way to go Nathan. Nathan is a member of Troop 714 in Carlsbad.



HAM RADIO OUTLET

H
R
O

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

KENWOOD
rf CONCEPTS
DIAMOND
US TOWERS
KANTRONICS
YAESU, MFJ, ICOM
BENCHER, Inc.
HUSTLER
COMET
AMERITRON

Astron,
AEA,
OUTBACKER
Larsen Antennas
TEN-TEC
Hy-gain, Tri-EX,
Cushcraft And Others
too
Numerous to
Mention!

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m.
Monday thru Saturday *Ask about our great prices*
858 560-4900
or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!



Solving problems is what we do best. See more repeater site work party photos starting on page 12.



NiCd Lady Company

Grace Lloyd
N6WPA

grace@nicdlady.com

www.nicdlady.com

Custom Assembly • Rebuilds • Batteries
• Lead Acids • Replacement Packs

20585 Camino Del Sol • Unit B
Riverside, CA 92508
800/906-6423
951/653-8868
Fax 951/653-5189

Your Complete Battery Source

SCOPE Membership for December

Please don't forget the Club when your membership is due!! Some of the folks that may be due to reinstate – I hope! NC7V, KD6DLI, KF6WTN, K6AH, KE6GNH, WA6NPM.

And, those still on my "Hopeful" list, left over from last month: K6VG, KJ6TWJ, KQ6B, N5KKW, KB6CUT, KE6SDF, KF6GOF, KG6ETI, M6MTS, KJ6JMJ, KC6VDX, W9EN. I really hope I'm not wasting my time making it easy to see that your membership is running low! PLEASE!

(Did you know your records are on the web site for info.)

PARC in the Community

Mission Trails Day Demonstration



PARC Annual Auction

Photos by Don WD6FWE





RF PARTS[™]
COMPANY
From Milliwatts to Kilowatts[™]

Complete inventory for servicing amateur
and commercial communications equipment

RF POWER TRANSISTORS — TUBES — POWER MODULES

Diodes • Relays • Trimmers • Capacitors • Heatsinks
Transformers • Chokes • Combiners • Wattmeters • Books

3-500ZG • 811a • 572B • 4-400a • 6146B • 8072 • 8560AS
3CX400A7 • 3CX1200A7/D7/Z7 • 3CX1500A7 • 3CX3000A7
4CX250B • 4CX250R • 4CX400A • 4CX800A • 4CX1500B

Merit W6NQ • Gary K6CAQ • Steve K6NDG • Rob WA6GYG • Doug K6DRA

760-744-0700

www.rfparts.com • orders@rfparts.com






Holiday Nostalgia the Making of a Ham

by W6PUG

The Holidays are coming, and in North America, we have these images from the Currier & Ives holiday cards, snow scenes in the northern part of the country, and all kinds of variations for the rest of the country, but regardless from where you call home, the holiday season brings nostalgic moments - snapshots from your life that you hold near and dear. Let me share a couple of mine with you.

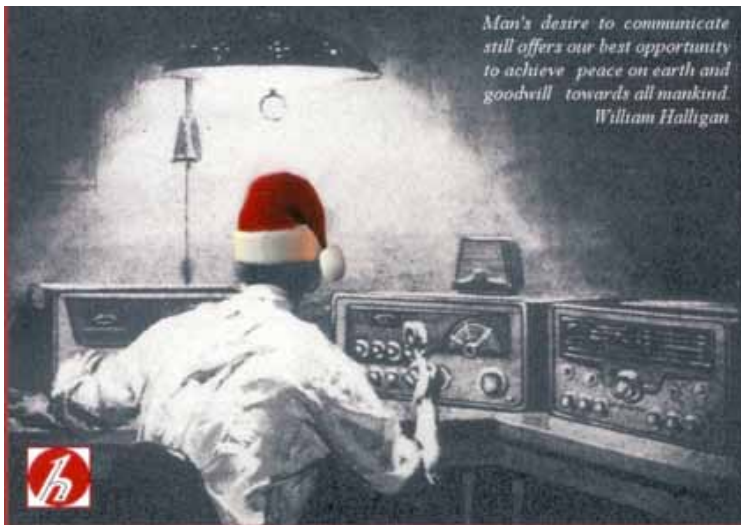
Amateur radio has been part of my life off and on since I was about ten years old, and I used to pour over every amateur radio and electronics magazine I could get my hands on ... read all the articles, and even occasionally understood some of it, and read every single advertisement, dreaming of the fantasy ham shack in which I would one day be

sitting, listening to the world. 50 years later, I hold an Amateur Extra license, have an elmer I consider to be one of my best friends, and I have logged contacts with many new friends worldwide. Amateur radio held a magic romanticism of new horizons and discoveries then and even still today. My favorite ads from those magazines, which have stuck with me to this day, were the holiday greetings from Collins Radio and Hallicrafters, and some of the other iconic pioneers in amateur radio. Two of my favorites showed a young man sitting at his operating station with his new Collins rig, with the fireplace and Christmas tree alongside, and another with the old Collins rig on the desk, where the operator could extend greetings all over the world while serenely looking out the window at the new falling snow (probably an odd mental 'visual' for Down Under operators, but you have to remember our culture here, illustrated in many of our TV movies such as *The Christmas Story* with the BB gun, snow, *White Christmas*, *Miracle on 34th Street*, *It's A Good Life*, and good ol' *Hometown USA*).



A COLLINS 555 rig can be yours now with Collins time payment plan.

These images have stuck in my mind for 50 years, and best illustrates what I learned to believe amateur radio is all about ... extending good will and joy to every corner of the world. Hallicrafters also had some wonderful ads portraying the Spirit, and making more of those first impressions on hams young and old ... that is when I fell in love with Hallicrafters radios, and today my proudest possession is my 1967 Hallicrafters Hurricane (which you can see in my bio on QRZ.com).



These are my favorites from Hallicrafters, and no doubt someone has taken a little artistic license to bring a bit more holiday cheer! One of the most profound statements of the purpose of amateur radio was offered by the late, great Bill Halligan, “Man’s desire to communicate still offers our best opportunity to achieve peace on earth and goodwill towards all mankind.”

It seems today that all of the radio manufacturers use the holiday season to get their new products out on the market and the ads are all “tech-centric”, urging you to purchase the latest and greatest. I am illustrating here only a very few representative holiday greetings which were in the QST and ham radio magazines of the era - not to sell the products, per se, but were actually extending holiday greetings from the amateur radio pioneer companies and their families, to us, the operators who are privileged to have families who support us in our hobby. When you start digging around in the nostalgia files and see some of the holiday greetings from not only Collins and Hallicrafters, but the Swans and Drakes and the whole host of radio icons, you must truly appreciate the camaraderie and goodwill of amateur radio of old. We could learn a lot from them, to follow their example today.

Ardent search on the internet yield few holiday greeting cards from our aged and honored hobby. QST has had one for a few years (who want to send the same card year after year?), and occasionally you see someone put a new one out there, but this niche is pretty barren of new greetings. I had some custom cards done by Anne at <http://www.etgiftstore.com/items/ALL-PRODUCTS/Gifts-for-Ham-Radio-Operators/list.htm> a few years ago, and I was hoping she could sustain a following and keep bringing new cards to the market, but it has been difficult to get the word out to other hams. (This is not just a “plug” for her, but also a plug for amateurs to communicate their holiday cheer with other hams around the world!). Check out her website; give her some new ideas if you have some. I found her service to be excellent, and the cards have been received by my friends who have admired their quality.

So, get out there ... string a G5RV between the antlers of your favorite reindeer ... send a few holiday greetings over your radio ... but most of all, take some moments and remember your ham radio dreams of yesteryear... the kids of today are going to look back at these times and our memories will be their nostalgia.

To all my fellow amateur radio operators worldwide, may we one day bring peace to our earth, and embrace all mankind. What better way to start than down memory lane with amateur radio? Nessie and Richard, I’ll be thinking of you guys!

73, and we wish you the happiest of holidays,
W6PUG Doug, Vivian, and our Pug Grumble (and yes, a “pack of pugs” is called a ‘grumble’!)



The Blessing of the Tinkerer

By Doug W6PUG & Richard, VK3TXD

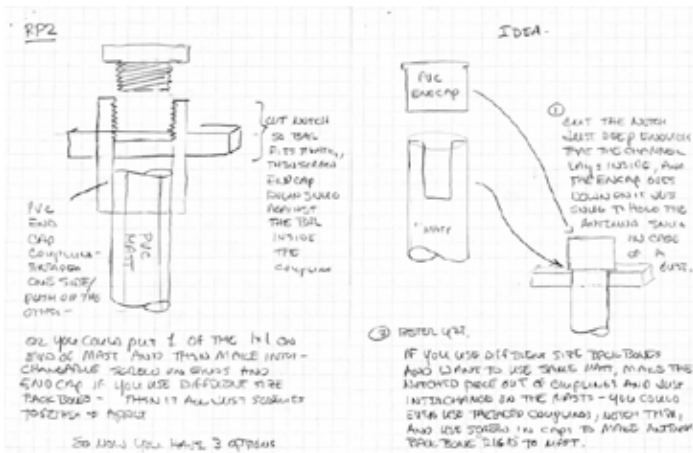
Richard, VK3TXD, is a tinkerer. I admire tinkerers and inventors. The tinkerer is the root and blessing of all inventors – and ham radio operators, and one must remember that the great scientists of the past generations were businessmen and academics who studied sciences as a hobby, since there were no “professional scientists” in the past centuries, but of course, I am veering far from the track. Thus, Richard is a tinkerer, and one of the most interesting things that I see from his tinkering is the work he does in VHF/UHF antennas. Some of his designs are breathtaking, and I relish his descriptions and successes with his tinkering of antenna designs. Now, imagine my shock when he was writing to me of his latest adventure, but then sent this photo!



Can you IMAGINE it?! Duct tape! I was truly appalled! A small gust of wind could tear it asunder, and destroy what I consider the beautiful art in function and aesthetics in a mere second! Most assuredly this is quite unsatisfactory! So what could we do to make it better (or, as we put it comically in our emails, “betterer”)?

Richard likes to use PVC because it is lightweight, and the sizing allows him to telescope the mast sections to transport in the car (of course! Imagine VHF QRP (as in 100mW!) from some remote hill talking to a repeater 100km away!). What was needed was something that has quick and easy disassembly for portability, yet have enough strength to hold the backbone of the antenna in place and defy the occasional gust of wind.

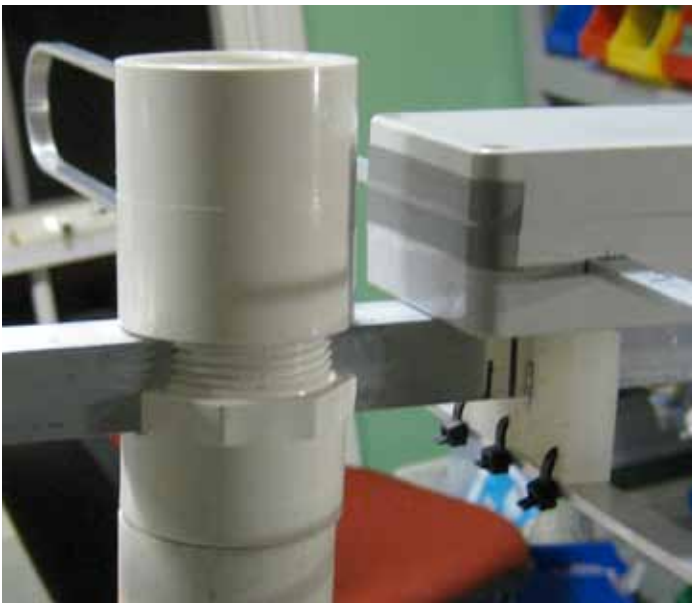
Although not nearly as resourceful as Richard, I have done some work with PVC fittings here in California, because of having to make all of my QTH antennas “stealthy” (translate that to vigorous Home Owners Associations poking their noses into everybody’s business!). I make a couple of really rough sketches – and I do mean rough – sketches and notes, and emailed them to Richard.



I really did wonder if he had the time to give it much serious thought, but last night I got an email from Richard, and I had to laugh. He made no delay in trying out a new idea and improving on it with his own delicate style. In short the following photograph shows his latest innovation for the portable amateur radio operator.



Richard's comment, along with the photo, is, "I'm rather happy with it so far. Quick. Easy. Feels secure ... I call that a win!" From what I understand of the drive it takes to be an active QRP operator out in the boonies, these are words that are lived by, thus, I have no doubts that Richard will make many options and improvements, plus make it more "beautifuler" (I have corrupted him with California "English", so I must accept full blame for that).



The nice thing about being a tinkerer is that you can make something better – then make it “mo’betta” – here is the most recent modification and marked improvement (left). By reversing the components so that the cap screws on the outside of the boom supports, the cap continuously tightens down on the boom without chance of the “ears” popping open from the internal pressure of the screws of an internally screwed in cap, so the whole mechanism tightens down on the boom.

Hopefully, this idea will trigger the imaginations of some of you who like making things good betterer ...

So here we have the formula of a tinkerer: a need defined, a limited budget, a couple of guys who like solving problems in the simplest manner possible (“Occam’s Razor”), and a way to join brain cells 8000 miles apart ... ahhhh... the legacy of the tinkerer lives on! Blessed be the tinkerer.

73 Mates! (Richard is trying to teach me proper English, VK3 style!)

PARC Annual Auction

Photos by Don WD6FWE







Repeater Site Work Party



Ham Radio is an Application Mashup

During presentations on amateur ("Ham") radio contribution to emergency communications, invariably questions arise from non-hams trying to understand how it is that amateur radio is such an effective and reliable communication system, available to the public at no cost, but is also a hobby.

Hams invariably respond emphasizing amateur radio use of modern technology, dedication of individual hams to the public service role, that hams bring their equipment to the service, non-pecuniary nature of ham radio, etc.

Yet the public remains puzzled. Except for the non-pecuniary aspect, those answers also apply to the commercial infrastructure. And the public seldom understands the cost savings anyway.

I offer the following as a better approach for explaining amateur radio value in emergency service communications. In today's internet-savvy culture, the explanation of ham radio's distinguishing characteristic for emergency service communications is that ham radio is an "Application Mash-up". That is the same reason Facebook, eBay, etc. are so successful.

Let's examine three principal characteristics of amateur radio.

Operating time. Individual hams operate frequently. Hams who are wage earners find slivers of time to turn on their equipment and operate their favorite mode or band. Those blessed with ample free time will do similar operating perhaps many hours a day. So thousands of hams practice their skills and ensure their equipment is fully operational every day of the week, not just during some structured and scheduled communication test.

Operating Interests. Hams have diverse interests. Some try to operate independent of the commercial power grid. Others operate at very low transmitter power, gaining practice in techniques to overcome adverse conditions. Some only use home-brewed antennas learning exceptional antenna construction skills. Many operate nets where they control traffic flow, and routinely switch frequencies to overcome adversity. These and innumerable other examples develop thousands of special skills that contribute to instant availability of equipment and techniques independent of any other resource.

Self-sufficiency. The skills hams acquire in all the above allow overcoming the most adverse conditions. Hams have no expectation that the "IT department" will come fix the misbehaving computer, or that an electrician will set up the power sources, or a repair expert will arrive to take care of failed equipment. Hams are self-sufficient.

The web-centric definition of "Application Mash-up" is: "An application that combines data and/or functionality from more than one source".

When an emergency strikes, what do hams do? They break out their radios, go-bags, join well established emergency service nets, and populate emergency centers where they operate as RACES and ARES representatives chartered to serve in emergency communications. In doing so, primary emergency service nets self-populate: CERT, ARES, RACES become active from emergency centers nationwide. At the tail end of each of those networks (in the commercial world it is called the Point Of Service or POS) is a ham who is known in, and is familiar with his or her community.

As the POS multiply by the hundreds of hams who pick up their radios when an emergency strikes – and the commercial infrastructure fails due to overloading, power failure, equipment destruction, etc. – the result is the appearance of thousands of network "nodes" for information dissemination through a reliable and exceptionally well managed "self-created" network. The network extends from EOCs down into local distribution points where emergency responders and other citizens are acting to overcome the destructive vicissitudes of the emergency.

This is a human and equipment resource treasure that can not be duplicated by any amount of money or "scheduled training" from any government or private resource. It is the essence of how amateur radio is the pre-eminent communications service that never fails in an emergency.

So when someone asks: Why is ham radio the emergency communication system that never fails? The answer is very simple: "Because amateur radio is an Application Mash-up".

NN3V
Charlie Ristorcelli

New Email Discussion and Announcement Lists

by Michelle W5NYV

PARC has two new email lists. The two new lists offer additional ways to stay up to date with your fellow amateur radio operators. Signing up is very simple.

Go to

<http://www.palomararc.org/mailman/listinfo>

Click the link corresponding to the list you want to sign up for.

Fill in the form, and you're on the list.

PARC-Announce is a very low-traffic mailing list for announcements approved by the club. Expect only a few messages per month, maximum, including a notice about each club meeting. If you have an announcement you'd like to have published to this mailing list, please send your request to

board@palomararc.org for approval

PARC-Talk is an open list for PARC members to discuss anything related to amateur radio and to the club. Please post in plain text. Don't attach files.

We will not use Scope-notice, Scope-pdf, Meeting-remind or any other mailing list for unsolicited messages or announcements.

Don't forget - PARC is on Facebook too!

Find us at <https://www.facebook.com/groups/194674987710/>

Come support PARC on December 7th at...
<http://sandiegominimakerfaire.org>



Ops:

W6H: N6KI, WQ6X, AF6WF, K6KAL, K6GO, NA6MB, NN6X, N6EEG

<http://jidx.org/jidx2012ph-all.html>

Great job - First Place North America Multi Op Category (MOP)!

3rd Place World !

=== Multi Op ===

431568 KH2F

421480 BV0JIDX

139166 W6H

102942 CV5K

74360 RZ4FWW

We were trounced by Guam Station and China Stn but heck they are a chip shot from JA !
Awaiting Certificate

N6KI

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS
POSTAGE PAID
AT VISTA CA
92085-9998

Return service requested

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:00pm on 4 December 2013, Palomar Amateur Radio Club will have our annual social. Come rejoin fellow hams with adventures of the contact that did not get away. How you pulled them from the noise? Let us know of the latest project. Are you going to get those new toys? Bring some goodies to share. No ones going to report to your doctor. Lets recap the year and make plans for projects and fun for next year. We will bring the coffee pot!

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

Sign up for the PARC Email Lists:

<http://www.palomararc.org/mailman/listinfo>